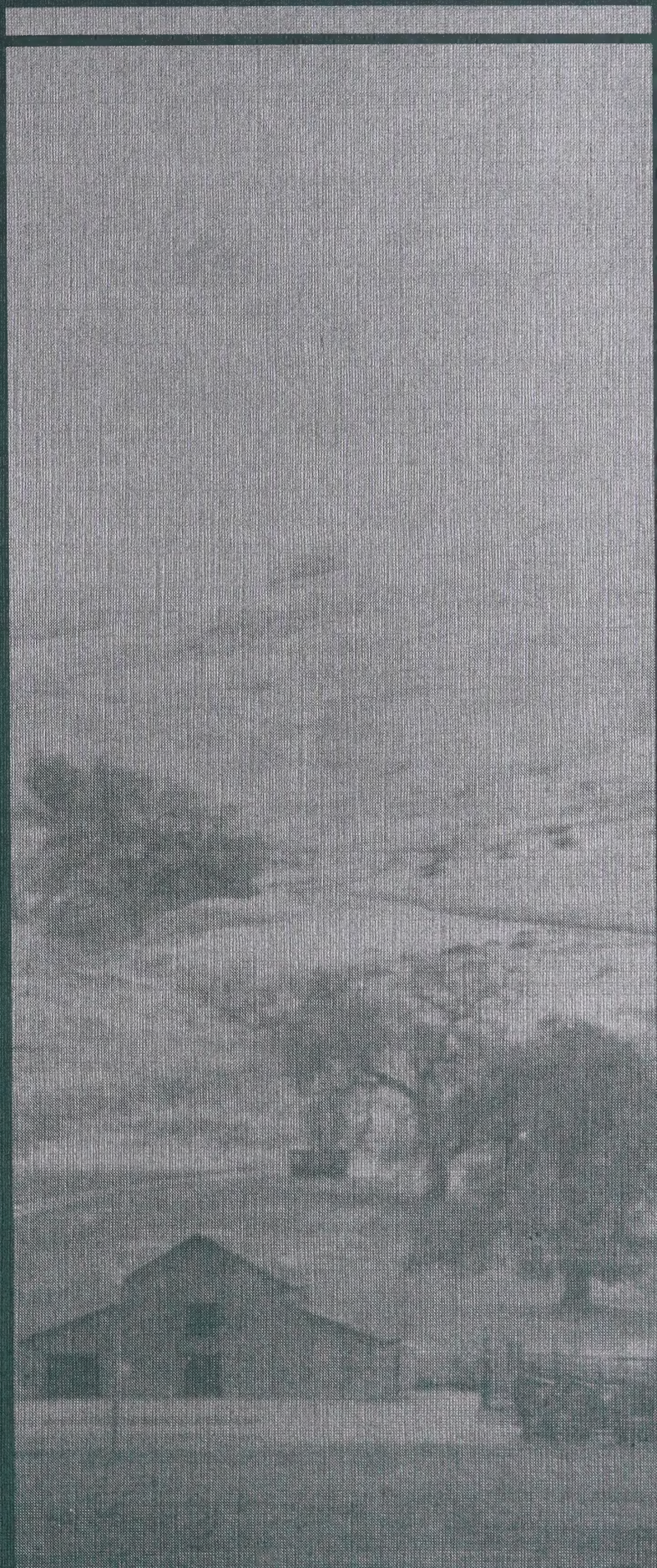


# Open Space Management Plan

El Dorado Hills  
Specific Plan Area









# El Dorado Hills Specific Plan Area

# Open Space Management Plan

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**Property Owner:**  
**El Dorado Hills Development Company**

**Prepared by:**  
**Arlan Nickel & Bruce Pope, Project Planners**

**February, 1993**





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# **AUTHORITY AND SCOPE OF THE OPEN SPACE MANAGEMENT PLAN**

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The Open Space Management Plan is a focused set of planning and land management recommendations which is required by the Policies of the El Dorado Hills Specific Plan. The purpose of the Open Space Management Plan is to "set forth procedures and responsibilities as to the ownership, preservation and management of public and private natural open space areas" (EDH Specific Plan, Policy 1.4.8.1)

The Open Space Element of the Specific Plan also states that the Open Space Management Plan shall "consider alternatives for ownership and maintenance of the natural open space. The Plan shall also identify mechanisms for the funding and on-going maintenance and management of the public and private natural open space". (EDH Specific Plan, Open Space Element, Section 6.2.1) The Open Space Management Plan describes that additional detailed resource-based studies must be undertaken by the interim and permanent natural open space management entities. The data developed for these studies will provide the guide for the subsequent management activities in the natural open space areas.

Implementation of the Open Space provisions of the Specific Plan is governed by the Specific Plan, the Development Agreement and the El Dorado County Open Space Zoning Ordinance. Uses and activities in the natural open space areas are restricted by the Specific Plan. Uses permitted in the Open Space areas include hiking and bicycle trails; bladed dirt roads for safety, fire protection, security and maintenance purposes; informal picnicing; open fencing; and grazing. In addition to these uses, the Specific Plan and Development Agreement also identified





that a 45 acre archery range and 2 church sites will be located in areas designated a natural open space. Prohibited uses in the natural open space areas include overnight camping; open fires and barbecues; tree and vegetation removal except for maintenance and fire protection; and grading except for erosion control and fire prevention.

The Development Agreement for the El Dorado Hills Specific Plan states that the

*"Developer shall dedicate to the El Dorado Hills Community Services District or other governmental agency..... public natural open space as shown on the Specific Plan. The Developer may dedicate designated private natural open space lands to the El Dorado Hills CSD or other government agency....."*  
(Section 3.2).

The Development Agreement also includes provisions that *".....all open space lands shall remain as private property under the control of the Developer or a Master Homeowners Association until conveyance to a public agency; that the open space conveyance instrument shall include a restriction on the uses allowed in the open space areas which stipulates that all ensuing uses must be consistent with those approved in the Specific Plan. Where uses of the open space lands are allowed which are not consistent with the identified open space uses, the lands may revert to the developer or his successor in interest".* (Sections 3.2.1,2,3,4)

The Public Improvement and Financing Plan includes provisions which state that approximately 450 acres of public natural open space land will be dedicated to the El Dorado Hills CSD. The public open space areas shall be conveyed by the developer to the CSD when a legal description of the open space areas, or any portion, is determined by the approval of final subdivision maps or conveyance of contiguous parcels. The

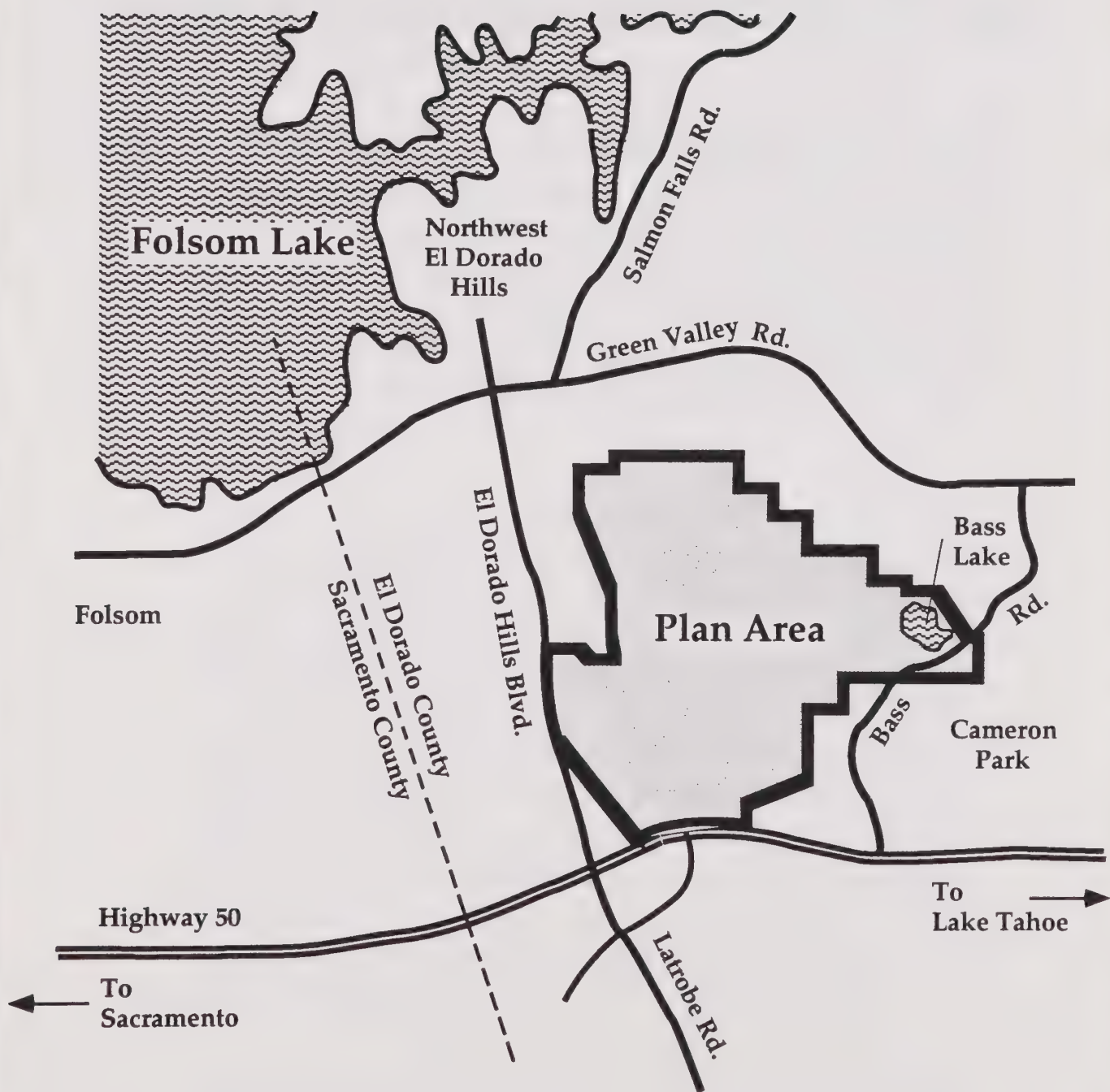




Community Facilities District is authorized to fund up to \$275,000 of improvements in the open space areas which are compatible with those allowed by the Specific Plan. A funding mechanism shall be established for the maintenance of the open space areas, such as a community facilities district, open space maintenance district or property's owners association (Section IV E).







No Scale

## El Dorado Hills Specific Plan Area Location Map



NORTH





# **RECOMMENDATIONS OF THE OPEN SPACE MANAGEMENT PLAN**

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## **Recommendations of the Open Space Management Plan**

The management of the natural open space lands in the El Dorado Hills Specific Plan Area must be provided by an agency or entity which is committed to provide a consistent, long-term management and administrative program for these valuable lands. This type of long-term management is intended by the Specific Plan, the Development Agreement and the Open Space Management Plan.

A Master Homeowners Association (MHA) will be formed in the El Dorado Hills Specific Plan Area to manage and administer a variety of private parks, landscape corridors and private natural open space areas. The MHA is generally considered to be the best open space land manager for the public natural open space lands in the El Dorado Hills Area. As compared to other public agencies which could potentially provide for the management of the open space lands, the MHA will probably be able to provide a higher level of attention and focus in managing the open space lands and landscape corridors in the Specific Plan area. Due to being a more "local" entity, the MHA will likely be able to manage and administer the open space lands at a higher and more attentive level than other public or private agencies.

The Specific Plan identifies The El Dorado Hills Community Services District (and El Dorado County as an alternate second choice) as the public agency which is designated in the Specific Plan and the Development Agreement as the intended recipient of the natural open space lands. This recommendation was made at the time of preparation and approval of the Specific Plan in



1988. After further review and consideration, this Open Space Management Plan recommends that the El Dorado Hills CSD should fulfill the recommendation of the Specific Plan by accepting the dedication of the public natural open space lands. The Open Space Management Plan also recommends that the El Dorado Hills Community Services District should enter into a long-term agreement where the Master Homeowners Association becomes the actual administrative and operational entity for the public natural open space lands in the Specific Plan area. In the private open space areas, the Master Homeowners Association is recommended to be the managing agency. By providing for a single management agency for both the public and private open space lands, a consistent and uniform management program will be applied to all the open space areas in the Specific Plan area.

If, in the future, an entity such as a County Open Space Management District is formed, the Master Homeowners Association should solicit the technical assistance of the Open Space District staff in the administration and management of the open space lands in the El Dorado Hills area.

The public natural open space lands, as designated in the El Dorado Hills specific Plan, will not be conveyed to the El Dorado Hills CSD (or the County) until all of the residential Villages adjacent to the public natural open space lands have had a final subdivision map approved and recorded. During this period, the Open Space Management Plan will also continue to be evaluated and refined as the Villages adjacent to the open space lands are designed. Final adoption of the Open Space Management Plan will occur when the final Village defining the boundaries of the natural open space lands is approved by the recordation of a final subdivision map.

Conveyance of the public open space lands from the El Dorado Hills Development Company to another entity will not occur





until an approved funding source has been identified and approved for the ongoing operations and maintenance of the public natural open space areas.





# INTRODUCTION

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## **A. Lands Regulated by the Open Space Management Plan**

### **A. Application of the Open Space Management Plan**

The preparation of an Open Space Management Plan is required by the policies of the El Dorado Hills Specific Plan. The purpose of the Open Space Management Plan is to "set forth procedures and responsibilities as to the ownership, preservation and management of public and private natural open space areas". (EDH Specific Plan, Policy 1.4.8.1)

The Specific Plan describes two types open space lands which are regulated by the Open Space Management Plan. These two categories of open space lands are:

***Public Natural Open Space*** - is defined as those lands in the Specific Plan which will be offered for dedication to a public agency. The Specific Plan or the Development Agreement do not restrict the management of the public open space lands to a public agency. As an alternative, the public open space lands may be operated and managed by a private entity such as the Master Homeowners Association.

***Private Natural Open Space*** - is defined as natural open space lands as designated in the Specific Plan which may be owned and maintained by private homeowner associations, or they may be offered for dedication to a public entity. Private open space also includes residential open space property which is included in individual residential lots, but which is reserved from development by easements, CC & R's or other recorded restrictions.



## **B. About the Open Space Management Plan**

The purpose and content of the Open Space Management Plan is discussed in several areas of the El Dorado Hills Specific Plan. In general, the broad goal in the management and administration of the Open Space lands in El Dorado Hills is to preserve the natural open space in "an essentially unaltered condition" and to "preserve the natural character while providing for fire and erosion control." ( El Dorado Hills Specific Plan, pp. 12-13).

The process of managing open space lands is not a precise science which has definitive standards. Open space management is best described as a process where resource objectives, based on scientific knowledge, are achieved through the implementation of various types of land management activities. The following paragraphs describe the general processes, approach and direction of the recommended open space management program for the El Dorado Hills Specific Plan area.

Open Space Management is a relatively recent science, with most of the data on open space land management being researched and published by a new class of biologists often referred to as Resource Ecologists. In developing management strategies for open space lands, resource ecologists view open space areas as a complex and dynamically-interrelated spectrum of habitats. As such, any management activity in the open space lands must be viewed in relationship to the entire system of open space. Any management activity (or lack of activity) will have a ripple effect throughout the environment of the open space areas. In recognition of this delicate balance and interdependence of the habitats the El Dorado Hills open space areas, one of the fundamental assumptions used in the preparation of the Open Space Management Plan is that most, if not all, management strategies will be implemented over a relatively long period of time. This long time period for the implementation of management activities allows the open space agency a period of time within which to observe and determine if the management activity is proceeding in the desired manner and direction. This long time period also requires that the





selected open space management agency must have the consistency and longevity required to implement the objectives identified in this Plan. As an example, the replanting of oak trees in the open space areas is a long term management objective which may take more than 20 years to complete and the long term success will not be known until the oaks reach adolescence....a period of 20-30 years beyond this time.

In El Dorado Hills, the open space lands are viewed as a complex mosaic of interrelated habitats which are in a constant state of flux and adjustment to one another due to a variety of natural and manmade influences. This constant change requires that any effective management strategy must determine what the existing "baseline" conditions are in a particular open space area, and then use a regular program of site monitoring to detect the rate, trends and direction of change in an particular area. Without a periodic site monitoring program, the effects of naturally occurring changes or intentional management programs cannot be objectively determined. Through monitoring, undesirable trends such as vegetation encroachment or habitat loss can be rectified, for example, by early detection and implementation of programs designed to counter these undesirable effects.

The experience of established open space land managers, such as the East Bay Regional Park District, the Marin Open Space District and the Mid-Peninsula Open Space District have been incorporated into this document in many areas. The experience of these open space agencies have demonstrated that successful open space land stewardship requires a management program which is interactive, flexible and designed to be implemented for long-term stability of the environments in the open space lands.



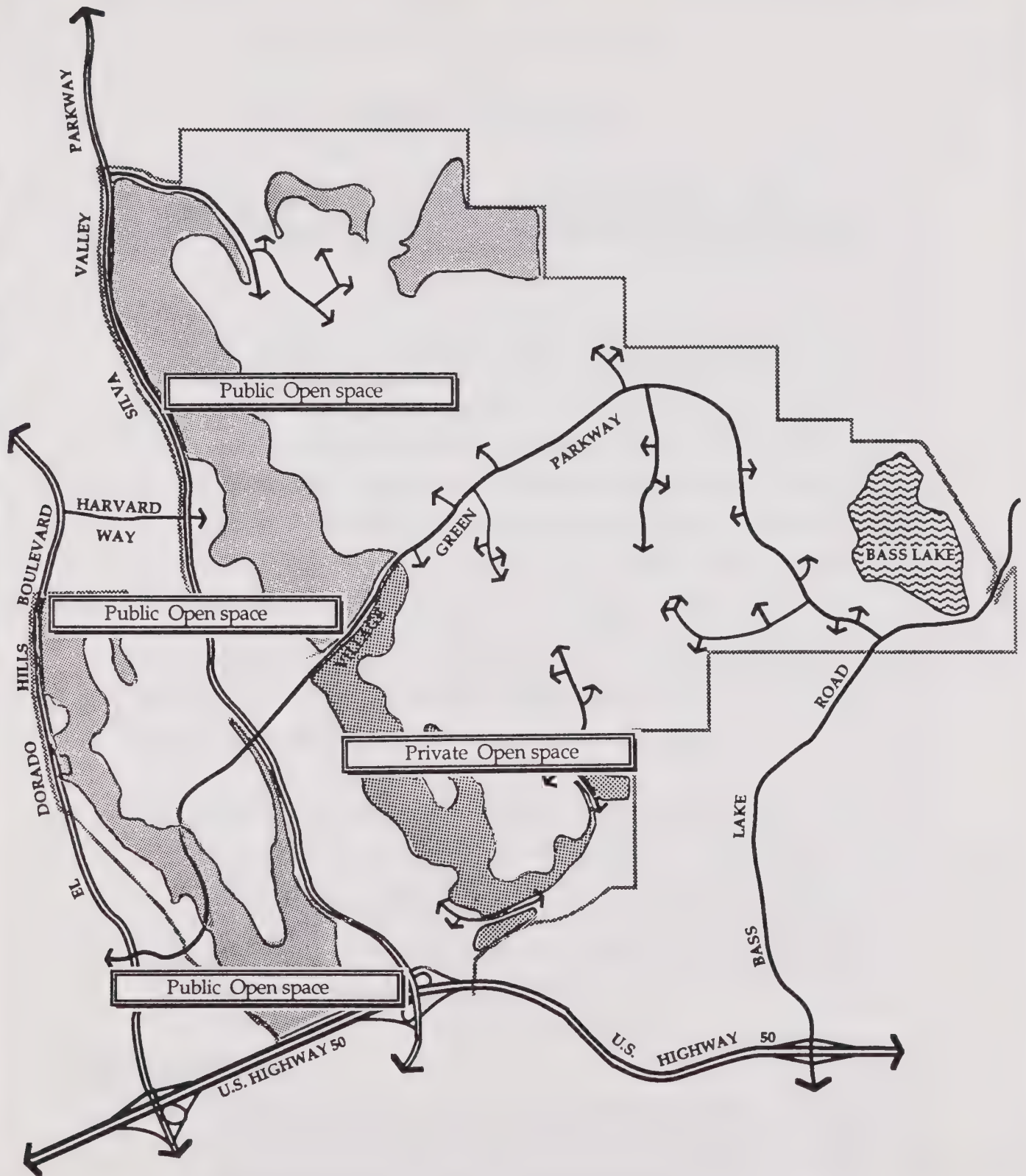


### **C. The Planning Process for the El Dorado Hills Natural Open Space Lands**

The Open Space Management Plan for the El Dorado Hills Specific Plan area is intended to be a document which establishes the general parameters for the administration and management of the public and private open space lands as designated in the El Dorado Hills Specific Plan. The open space management plan is intended to be periodically evaluated and refined as new information is developed for the natural open space areas in El Dorado Hills. As new scientific or management information becomes available for the open space management program, this Open Space Management Plan should be modified or amended to incorporate this new information. The intent of this plan is to develop a document which will respond to the dynamic planning process involved in the management of the natural open space lands in El Dorado Hills.

In order to allow the Open Space Management Plan to remain flexible during the design and review of the residential Villages adjacent to the public and private open space lands, the Open Space Management Plan is not intended to be adopted by the County until the last Village subdivision map located contiguous to the open space areas is recorded. This strategy will enable the Interim Open Space Management Plan to remain interactive and responsive to applicable new information developed during the tentative map, final map and improvement plan phases of each Village.





El Dorado Hills Specific Plan Area

Open Space Lands



NORTH





# SECTION 1

## OPEN SPACE OBJECTIVES

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The Assumptions and Objectives for the Open Space Management Plan are derived from the adopted El Dorado Hills Specific Plan, the Development Agreement and from open space plans prepared for the Mid-Peninsula Open Space District and the Marin Open Space District. The following Assumptions and Objectives are intended to be adopted with the Open Space Management Plan, but are not intended to replace or modify the Goals and Policies of the Specific Plan which relate to open space. The Assumptions provide the basis for many of the recommendations and directions in the Open Space Management Plan; the Objective statements provide guidance in the preparation of the content and character of the Open Space Management Plan and subsequent resource and open space planning studies.

The Assumptions and Objectives are subordinate to the Goals and Policies of the El Dorado Hills Specific Plan and any applicable sections of the Development Agreement. Where a conflict occurs between the Objectives of this Open Space Plan and the Goals and Policies of the Specific Plan or Development Agreement, the Specific Plan or Development Agreement will prevail.

### **A**ssumptions

1. Natural open space areas in the El Dorado Hills community are vital to maintaining the vistas, rural character, plant and wildlife habitats in the El Dorado Hills area.
2. Components of the Open Space Management Plan will include vegetation habitat management, fire management and



prevention, aesthetics and recreational trails as dominant elements.

3. Buffers between the natural open space areas and the developed areas will provide for the transition between these land uses.
4. Management strategies for open space lands will be designed to maintain the natural open space areas in their approximate natural, existing form in perpetuity.
5. The natural open space lands will be owned and managed by a public agency, by a private homeowners association or a combination of both. Private natural open space lands, as defined in the Specific Plan, may be privately owned, but shall be restricted-in-use by Conditions, Covenants and Restrictions.
6. The source of revenues for the on-going operations and maintenance of the open space areas may be derived from a variety of sources including homeowners association dues, open space maintenance districts, benefit assessment district, or other discrete and assured sources of funding.
7. Identified archaeological sites, as described in the El Dorado Hills Specific Plan EIR, will be preserved in the open space areas.
8. The El Dorado Hills Development Company will act as an interim open space land manager. As the interim manager, the El Dorado Hills Development Company will provide only limited improvements to the open space areas; these improvements will generally be limited to those identified in the Development Agreement, the Financing Plan and as identified in this Open Space Management Plan. After the conveyance of the open space lands, the long-term open space manager will begin to implement the long-term management programs recommended in this Plan.





9. The Open Space Management Plan will be a document which will be prepared in an administrative draft form and reviewed by the effected public agencies.
10. The Open Space Management Plan will be adopted by the County prior to the conveyance of any open space lands from the developer to a public entity or homeowners association.

## **Objectives**

### **Planning and Management of Natural Open Space**

1. The natural open space lands in the El Dorado Hills Specific Plan Areas will provide for the desired preservation of the natural environment adjacent to the developed urban areas of El Dorado Hills.
2. The natural open space lands in El Dorado Hills will provide for the preservation of plant and wildlife habitats, recreation opportunities and the maintenance of aesthetics and viewsheds.
3. Management programs for the natural open space areas will provide for technically sound, cost-effective management strategies which are designed to maintain and enhance the ecology of the natural open space areas.
4. The boundaries of the natural open space lands will be determined by the edge of each residential village which is adjacent to the open space areas. The final boundary of the open space areas will not be determined until final subdivision maps for each village which are contiguous to the open space areas have been approved by the County.
5. Management practices in the open space areas will generally consider and prioritize management activities in the following order: (1) public safety; (2) environmental protection, and finally; (3) public access and recreation.



6. Natural open space areas will remain zoned as Open Space (OS) as described in the El Dorado County Zoning Code.
7. Permitted uses allowed in the natural open space areas, as regulated by the El Dorado Hills Specific Plan are:
  - Pedestrian and bicycle use of the designated trails and access roads.
  - Motor vehicles only for maintenance, security and fire protection.
  - Informal picnicking; attended and leashed dogs; livestock grazing; trail and maintenance roads not exceeding 8 feet wide.
  - Equestrian trails may be located in the major County-designated trail corridors and road rights-of way where they are compatible with the adjacent residential villages.
8. Uses prohibited in the natural open space areas, as regulated by the El Dorado Hills Specific Plan are:
  - Unauthorized motor vehicles, off-road and all-terrain vehicles.
  - Grading, except the minimums necessary for erosion control and fire prevention.
  - Overnight camping; open fires and barbeques; unleashed dogs; vegetation removal.
9. The Open Space Management Plan shall consider, at a minimum, the following information:
  - The locations of fire roads, fuel breaks and passive recreation trails.
  - Control Burning techniques to reduce fuel loading.
  - The Open Space Guidelines of the El Dorado Hills Specific Plan, Appendix C.
  - Investigation of opportunities for wildlife use of water in open space areas as part of the on-going wildlife maintenance program.





10. Project Mitigation Measures for the public open space areas of the Specific Plan include:
  - Installation of wetland mitigation requirements as required by the Corps of Engineers, 404 Permit for the project and other Local, State and Federal agency permitting and mitigation requirements.

### **Wildland Fire Management**

11. Firebreaks shall be constructed in locations which provide the required fire safety as well as being visually unobtrusive wherever possible. Where required, and as identified in the Open Space Management Plan, firebreaks and fuel-modified zones will be provided adjacent to the rear lot lines of all residential parcels in all villages which abut the natural open space areas. Fuel modification zones will generally be limited to a 30' mowed area between the rear fence line or lot line of the residential lots and the open space areas. In areas with trees, a canopy modification zone will also be created where all low limbs will be trimmed up to a height of 10' above the ground. The tree canopy and grass/ground fuel modification zones may be located within the same alignments. Fire and fuel breaks will be installed prior to the beginning of work and will be located to avoid the removal of native oaks and other native trees.
12. The El Dorado Hills Fire Department will review and provide specifications and field approvals for the construction of fire and fuel breaks in the Specific Plan Area.
13. Erosion and drainage control measures will be designed and provided to the County for review at the time that drainage improvement plans are prepared for the streets, golf courses, residential villages and commercial uses. Storm water runoff, and flow/energy attenuation structures into the open space areas will be designed using natural-appearing methods which comply with the Specific Plan and EIR mitigation measures.



### **Buffers and Open Space Transitions**

14. A natural open space buffer extending 100 feet each side of the centerline of Carson Creek will be maintained along Carson Creek in accord with the DFG requirements. A 100 foot wide buffer zone (50 feet each side of the centerline) will be maintained along all intermittent creeks.
15. Barriers will be installed at the perimeter and road ends of the open space areas to prevent unauthorized vehicular access to the public natural open space areas.





## **SECTION II**

### **DESCRIPTION OF THE OPEN SPACE AREAS IN THE EL DORADO HILLS SPECIFIC PLAN AREA**

---

#### **General Description of the Open Space Lands in the El Dorado Hills Specific Plan Area**

Open space lands in the El Dorado Hills area include several different vegetative communities which are typical of the lower elevation of the Sierra Nevada foothill region. The majority of the El Dorado Hills Specific Plan area consists of large expanses of undeveloped natural areas which are interspersed with lands which have been utilized for past dryland grazing uses in most areas, and mining activity in localized areas. These past uses have resulted in a mosaic of vegetative communities in the Specific Plan Area, such as grasslands and woodlands which include smaller vegetative associations of serpentine-based chaparral, creekside habitats, and seeps or springs.

Four general habitat types have been identified in the Open Space Areas. These are: annual grasslands; blue oak woodlands; live oak forest; and serpentine-based chaparral. In very localized areas, springs and seeps provide an additional habitat type.

**Annual grasslands** cover about 425 acres, out of a total of 808 acres of designated natural open space areas in El Dorado Hills Specific Plan. These grasslands are characterized by a diverse mix of annual grasses and forbs. Introduced (non-native) grasses dominate this plant



community except on the thin or rocky soils types. The dominant grasses include the soft chess, ripgut brome, foxtail barley, and wild oats. Interspersed throughout the grasslands are annual and perennial forbs. These species include clover, goldfields, poppy, filaree, fiddleneck and larkspur.

**Blue oak woodlands** comprise approximately 190 acres of the designated open space areas. The blue oaks typically dominate this vegetative community, with occasional digger pine and live oaks interspersed within the blue oak forest.

The boundaries between the live oak forests and the blue oak woodlands are difficult to determine at times. These two tree communities frequently grade imperceptibly into one another, with the proportion of blue oaks gradually decreasing and the live oaks gradually increasing. As a result, the boundaries between these two communities is often mapped arbitrarily.

Live oaks normally are found in the more protected locations in the plan area (i.e., along the drainages). Understory vegetation in the blue oak woodlands varies depending on the site orientation, the soils and canopy density. In the more arid locations, no shrubs are normally present where the blue oak canopy is thin. Shrub cover increases on the more protected sites such as along drainages or on sites with a north or east orientation. Dominant understory shrubs in these areas include poison oak, buckbrush, toyon, and coffeeberry. Dense poison oak thickets sometimes occur at the edge of the blue oak woodlands.

Blue oak woodlands normally have a herbaceous grassland cover, with the grasses listed previously being common in these areas.

**Live Oak Forests** comprise about 145 acres in the open space areas and are found in the more protected areas of the open space area. The largest live oak forests occur in the north sections of the specific Plan area, with more pronounced coverage in the north and east facing slopes. Live oaks are also very common along the creeks and





drainages. As with the blue oak woodland, the live oak forests were probably much more extensive than they are today, due to wood harvesting, grazing, fire and other habitat modifications.

The live oak forests are represented by two subtypes of plant associations in their open space areas; one dominated by the interior live oak, and a second by a mix of interior live oak and blue oak.

The pure live oak forests have dense, often closed canopies. The understory shrubs in these areas range from sparse to dense, with poison oak, toyon, and buckeye being the most frequently found shrubs. On protected sites, yellow pine and digger pine are occasionally found intermixed with this community. In some areas, the live oaks and a large proportion blue oaks compose the live oak forest.

Both of these forest types also support several perennial herbaceous species associated with hardwood and conifer forests at higher elevations. These herbs are not typically found in annual grasslands and include species such as sanicle, yarrow, and wood rush.

In certain areas, the live oak forest is very lush due to the microclimate of being located in a relatively deep canyon and the presence of a creek with water most of the year. In these areas, California buckeye is commonly found as well as a variety of ferns and other plants found in moist shaded locations.

**Serpentine Chaparral Habitats** occur in approximately 50 acres in the open space areas. This vegetative community occurs predominantly on soils derived from serpentine geologic parent material. The plants which occur in this habitat area have adapted to the unique chemical characteristics which occur in these soils; these characteristics also restrict the viability of other non-adapted plants. Common plants found in this community include poison oak, deer brush, manzanita, and chamise. On protected sites, digger pines may be found.



**Creekside Habitats** have highly variable characteristics due to differences in mining history, location in the watershed, availability of water and composition of the vegetation in the riparian corridor adjacent to the creek.

Most of the creek channels in the Specific Plan area have been disturbed in the past by placer mining. This type of mining removed the natural vegetation and significantly altered the amount and distribution of soils in the creek channels. Livestock grazing also has a significant effect on the vegetation along creeks and streams in the Specific Plan area. In general, livestock grazing reduces the value of creekside habitats because cattle spend a disproportionate amount of time in this habitat and trample and browse on riparian vegetation. Due to the presence of shade in the summer and the often more luxurious growth, cattle over-utilize this habitat and severely impact or eliminate the willows, cottonwoods and other riparian species found along creeks and streams.

Allegheny Creek and its tributaries in the northern portion of the Specific Plan area support very little riparian vegetation due to past mining activity, the lack of year-round water and recent grazing practices. In general the creeks in this area support oak forests, oak woodlands or annual grasslands up to the creek edges. The oak woodlands are typically dominated by interior live oak, with blue oak, buckeye occasional valley oak cottonwood, California grape and willow scattered along these creeks. Two small sites along Allegheny Creek have relatively good stands of cottonwood/willow/Himalaya berry vegetation. The presence of these two stands and the occasional valley oaks, cottonwoods and willows along other reaches of these creeks indicate that Allegheny Creek may be capable of supporting more extensive riparian vegetation.

Carson Creek supports an intermediate type of creekside vegetation with riparian dependent species like cottonwood, willow and buttonbrush mixing with interior live oak, blue oak, and buckeye. The canopy is nearly closed and riparian-dependent species contribute about





40 percent of total cover. Because water is present most or all of the year, riparian herbs such as beardgrass, deer grass, and spike rush are also present. The channel is very rocky with numerous large boulders and bedrock outcrops. These features reduce accessibility to livestock and may account for the increased amount of riparian-dependent vegetation.

### **Vegetation - Seeps**

Seeps have vegetation similar to marshes but lack cattails and tules. Seep vegetation is dominated by various annual grasses (e.g., rabbitfoot and foxtail grasses) and a mix of forbs such as curly dock, smartweed, cut-leaved geranium, and watercress.

These wetland habitats are uncommon in the Plan Area. Several small seeps, totaling less than 2 acres, are scattered on hillsides in the annual grasslands and blue oak woodlands. The two freshwater marshes total less than 2 acres. Several small stock ponds are scattered in the Plan Area.

Marsh and seep habitats are of special importance because of their value to dependent wildlife and plants and due to the current scarcity of these habitats compared with their past extent.



Figure 2-1  
Open Space Vegetation Types





## VEGETATION MANAGEMENT RECOMMENDATIONS

### **Restoration of Vegetation:**

One of the overall objectives of vegetation management in the open space areas is to maintain, and in some areas, reestablish the species and age diversity of plant types which are found in similar undisturbed plant communities in other locations.

Based on preliminary surveys of the oak forests in the El Dorado Hills open space lands, The blue oak and valley/live oak woodlands do not include the age spectrum of seedlings and adolescent trees that should be present in a normal, healthy forest. This is likely caused by the decades of cattle grazing in this area which prevented oak seedlings from growing and replacing the aged trees. The recommended managing agency for the El Dorado Hills open space lands should begin the process of restoring the age diversity to the oak forest to provide the age variety which is normally found in unmodified forest communities. This "restoration" objective for the natural open space lands should occur over a relatively long period of time. In general, the permanent open space managing agency should develop a long-term management plan which describes the level of effort and the time required for the various stages necessary to create a viable oak forest which exhibits age diversity similar to a natural undisturbed forest. However, this comprehensive vegetative management process should not occur until the open space lands have been conveyed to the long-term open space manager and a long term operational plan has been prepared by a resource ecologist.

As in many areas of California which were extensively grazed, the introduction of cattle grazing in native oak woodlands and the gradual replacement of native bunch grasses by introduced annual grass species has drastically reduced the regeneration rate of native oaks in the central valley and foothills. Some experimental work is currently being done to determine cost-effective methods to increase the regeneration rate of oaks. A promising method appears to re-establish



the native bunch grasses within the dripline of established oaks; this creates the environment where the oak seedlings germinate and have a higher first and second year survival rate. This greater survival rate is thought to be caused by the greater rooting zone moisture retained by the native bunch grasses as compared to exotic species.

The recommended responsibility of the long-term open space manager is to continue the vegetation management process initiated by the El Dorado Hills Development Company. Prior to any significant restoration process started within the open space areas, an inventory of the oak forest areas in the open space preserve should be prepared to document the present general status of the forest. An "overview" inventory by a certified arborist is recommended on a preliminary basis to establish the general age and health of the forest. Following the inventory, the arborist, in cooperation with an experienced resource ecologist or biologist, develops a strategy and process for implementation of the identified vegetative management objectives. For example, the biologists may target certain areas for the re-establishment of native bunch grasses. An additional element may be to also introduce germinated oak seedlings with protective caging in selected areas. The California Nature Conservancy, at their Cosumnes River Preserve, has had a very high success rate in the germination of valley oak seedlings using site-gathered acorns and planting them in deer-resistant protective cages until the seedlings are 2-3 years old.

Other locations in the natural open space areas which will be restored are areas where grading and other earthwork has exposed soils which are susceptible to soil erosion. The Specific Plan, in Appendix D lists approved plant species for revegetation and erosion control in the natural open space areas. In keeping with the native planting regime proposed by this Open Space Management Plan, only native plants should be used for erosion control, except where the conditions warrant, and the local Resource Conservation District finds that non-listed species would provide more effective stabilization. In general, the process of restoration attempts to re-establish the bunch grasses and wildflowers that are native to this area in suitable locations, and to





eliminate the undesirable european weed species, such as star thistle, that dominate much of the grasslands throughout California. The recommended method for restoration is to generally establish "islands" of native bunch grasses in selected locations. Through monitoring, the success of establishing the native bunch grasses can be ascertained. Where they are successful, these islands can be expanded as feasible and as recommended by the Resource Ecologist. It should be emphasized that the purpose of re-establishing the native bunch grasses is to assist in the regeneration of the oaks; the resource ecologist may recommend other alternative methods to accomplish the same result.

Establishing the restoration locations of native versus non-native plants is the first step in the restoration process. Areas may be discovered that are good examples of native ecosystems and require no restoration. A seed source for the desired plant types must be established. The California Native Plant Society can provide a listing of native seed producers for the variety of native wildflowers, grasses, shrubs, and trees which exist on the site. Whenever possible, the open space management entity should use the plant stock existing on the site as a seed source. Using locally-native plant stock helps to ensure the integrity of each species. Recent research also seems to indicate that locally-native seed stock appears to be more hardy and better acclimated to the particular climate, soil chemistry and other factors in their native area, as compared to seeds imported from similar species which are collected from other areas. Promoting the regeneration of the desired plants from local seed also thought to preserve the genetic integrity of locally-native plant species existing in the natural open space areas.

As discussed above, there are several options for the implementation of each phase of vegetative restoration. However, all restoration efforts should be considered "experimental", and should be monitored to ensure that no negative impacts results from such efforts. The long-term natural open space management agency will prepare a "Restoration Plan" under the supervision of a Resource Ecologist. This



plan will identify the locations, timing, species and other details of the vegetation-forest restoration process.

Other vegetative communities should also be involved in the restoration process. Areas along the creeks and drainages should be replanted with riparian vegetation to provide additional cover for wildlife and to expand the limited riparian plant community. Where construction activity occurs in areas of mixed riparian species, chaparral, grass and oak woodlands, these areas should be restored when soil disturbance or grading occurs. This will help to reduce erosion and begin the process of re-establishing the native vegetation in disturbed areas of the open space lands.

Several areas in the natural open space lands are recommended for the construction of mitigation wetlands as approved by the Corps of Engineers in the El Dorado Hills Development Company's Section 404 Permit. The wetlands are generally described and delineated in the Mitigation Plan for the Section 404 permit and are included as Appendix C. The segments of the Mitigation Plan and the Section 404 Permit which effect the natural open space lands are incorporated by reference into the Open Space Management Plan.

**Control Burning Techniques** -- The use of fire in the El Dorado Hills open space areas can also provide an opportunity for vegetative restoration. Fire eliminates many non-native plant species that out-compete native species for nutrients, sun and water. The open space managing agency should plant and/or seed fire damaged areas with native species whenever possible. In general, burning is the least-preferred method of vegetation modification in the open space lands due to the visual impacts caused by the burned areas. Where control burning is proposed to be used to reduce fuel loading or for native plant restoration, the proposed burn area should be reviewed by the project resource ecologist and the El Dorado Hills Fire Department and California Department of Forestry for their recommendations.



**Downed and Dead Wood** -- In most areas, fallen trees should be left as they lie, and branches should not be removed unless it causes a safety hazard or impairs the use of trails or fire/service roads. The understory clutter produced by the downed wood provides valuable wildlife habitat and also allows understory vegetation to regenerate naturally. In locations where the downed wood is located in an important viewshed or in areas which are adjacent homes, trails and roads, the downed limbs may be relocated to other areas within the open space as directed by the resource ecologist.

**Non-Native/Invasive Plants---** Non-native/invasive plant types (thistle, broom, pampas grass, etc.) should be removed prior to their going to seed. Invasive plant removal and vegetation restoration are labor-intensive efforts which often require several seasons to complete. The long-term open space management entity, as recommended in this Plan, should undertake the task of eradicating or reducing the undesirable weed species only after the preliminary baseline study for the natural open space lands is complete and the Resource Ecologist recommends that a control program be implemented. Due to the labor intensive nature of this type of management, non-paid labor would provide the most cost-effective method for control. Sources of labor include community volunteers, Growlersberg Conservation Camp work crews and the Sheriffs inmate work groups which can be managed by the open space management entity staff to complete these tasks.

## **SUMMARY OF VEGETATION MANAGEMENT RECOMMENDATIONS:**

### ***Short-Term Management Recommendations to be Implemented by the El Dorado Hills Development Company:***

1. Install trails and fire access roads, firebreaks and fuel modifications in coordination with the development of the





subdivision improvements for the Villages and other land uses in the Specific Plan.

2. Prepare an open space tree planting plan which indicates the general locations of trees to be planted, the tree species, sizes and approximate numbers to be planted in the natural open space areas.
3. Retain a project resource ecologist on a "task order" basis. Initiate and complete the baseline vegetation inventory within the open space lands and especially the oak forests in the open space areas to determine relative health and age distribution of the forest.

*Open Space Management activities to be completed by the approved open space managing agency after conveyance of the open space areas:*

1. Develop masterplan for oak forest management, planting and restoration. Include a prioritized implementation schedule within a 5 year program (which is updated each year) for oak forest management activities.
2. Develop a fire management, emergency access and fire suppression-strategic attack masterplan in cooperation with the El Dorado Hills Fire Department and the California Department of Forestry.
3. Initiate the open space and tree/vegetation monitoring program (refer to Appendix A).



## SECTION 3

### OPEN SPACE PLAN ELEMENTS

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#### **A. Trails**

The location and design of trails is important since they will determine which areas may be accessed for passive recreational use. Trail locations will also discourage access into some areas by avoiding these sensitive areas which are to be protected for wildlife habitat, vegetative restoration etc. Trails should be thought of as a land-management tool which will assist to implement the policies and goals of the El Dorado Hills Specific Plan, and the Mitigation Measures of the EIR. The Specific Plan clearly intended that the open space areas would be accessed via a system of trails so as to permit the residents of the El Dorado Hills Area to enjoy the open space lands as a visual, environmental and recreational amenity.

Trail use is compatible with the primary function of open space areas, which is the preservation of natural features. Trails allow recreational users access to the land, thereby fostering a sense of stewardship and value of the open space lands in El Dorado Hills. The open space areas also provide an important visual amenity to the community, as well as providing important plant and wildlife habitats.

In the following section, existing trails, trail connections, county-wide trail connections, general user needs, local community interests, and resource restrictions are discussed as they relate to the trails in the El Dorado Hills area.





## **1. Existing Conditions**

Trails and public access into the El Dorado Hills open space areas will be one of the most important elements of the open space management program. Recommendations for trail locations are presented in the following sections.

There is only one known existing trail in the El Dorado Hills open space area. This trail is a remnant of the old roadbed which parallels Carson Creek in the southeast sector of the Specific Plan Area. The El Dorado Hills Specific Plan EIR identifies this area as a possible extension of the development which surrounded the townsite of Clarksville. With the historic use of the El Dorado Hills Specific Plan for cattle grazing, some informal equestrian/cattle trails may also exist in various locations of the open space areas.

## **2. Planned County Trails**

The El Dorado County Hiking and Equestrian Trails Master Plan was adopted by the El Dorado County Board of Supervisors in April, 1989. The El Dorado County Trails Master Plan displays all of the existing and proposed hiking and equestrian trails proposed for El Dorado County. The El Dorado Hills Community Services District has also approved, in July 1992, a Recreation Facilities Master Plan for the El Dorado Hills CSD area which also displays proposed alignments for trails in El Dorado Hills. All trails to be developed in the natural open space areas must be consistent with the provisions of the Specific Plan, the Development Agreement and the Open Space Management Plan.

### **EL DORADO COUNTY REGIONAL TRAILS**

The El Dorado County Hiking and Equestrian Trails Master Plan displays two regional trails in the vicinity of the El Dorado Hills Specific Plan Area. A description of these trails follows:

**The Mormon-Carson Trail** -- In the south sector of the Plan Area, the Mormon-Carson Trail is generally aligned with White Rock Road. At Silva Valley Road, this trail is recommended to be aligned on the north side of Hwy. 50 where it is intended to intersect with Bass Lake Road.



At Bass Lake Road, the Mormon-Carson Trail is intended to follow Country Club Drive to Cameron Park Drive. From there, the Trail would follow various County and U.S.F.S. Roads to Hwy. 88 and then connect to Silver Lake, Kirkwood and the Emigrant Summit National Recreation Trail. As with the other trails proposed in the County Trails Master Plan, this trail is presently not developed, except in the areas where it follows an existing County Road.

The important segment of this trail is the segment which is planned east of Silva Valley Road and north of U.S. 50. A recommendation of the Open Space Management Plan is that the alignment of the Mormon-Carson Trail should generally follow Carson Creek from Hwy. 50 and Silva Valley Road. The trail should then connect to Bass Lake and Bass Lake Road. From there, this trail can follow Bass Lake Road south to connect with a trail proposed within the Bridlewood Canyon subdivision which connects with Knollwood Park in the Cameron Park Community Services District. Because of the regional significance of the Mormon-Carson trail, it should be developed to accommodate equestrian use as well as for hiking and walking. As for all other trails developed in the Specific Plan area, the development of a trail along Carson Creek must be compatible with the requirements and policies of the Specific Plan and EIR and project mitigation measures.

**The SMUD-PG&E Powerline Easement** -- In the central section of the Specific Plan area, the SMUD-PG&E powerline easement is aligned in an east-west direction. This easement is designated as a study route in the El Dorado County Trails Plan. This corridor is also identified in the El Dorado Hills CSD Recreation Facilities Master Plan as a trail corridor which can connect the trails in the El Dorado Hills area to the west into the City of Folsom at the Humbug-Willow Creek Parkway and from there eventually connecting to Lake Natoma and the American River Parkway. Although this trail corridor provides a convenient route to the west, the powerline towers and lines are ugly to most trail users; other trail routes to the west should be sought by the County to compliment this trail corridor.





### **3. Trails within the El Dorado Hills Open Space Preserves**

Several trails have been tentatively aligned in the El Dorado Hills open space lands. The El Dorado Hills Specific Plan incorporates policies which require the development of trails in the Specific Plan Area. In Section 1.4.7.3 of the Policy Section of the Specific Plan, Policies b, c, e, f, and g discuss trail and pathways in the Plan.

One of the overall objectives of the trails in the Open Space lands is to provide the residents and trail users with safe and pleasant access to the variety of landscape experiences and vistas which exist in the Plan Area. Another objective of this Open Space Management Plan is to provide several different levels of trail difficulty, ranging from easy to challenging. An additional objective is to provide a series of trail loops so that trail users can return to their starting point by following one or more loops. In one location northwest of the Village Green, a measured 5 kilometer loop trail is master planned and may be installed by the El Dorado Hills Development Company or the subsequent open space land manager. In general, the implementation of the trails in the open space preserves will be an ongoing process. As the Villages adjacent to the open space preserves are designed, and the subdivision improvement plans are prepared, the trails, firebreaks and access points will be specifically located. These design changes may require that the Open Space Management Plan be amended as more detailed planning occurs.

A description of each of the major trail corridors proposed in the Open Space Preserves follows. Refer also to the Open Space Plan Map for the corresponding graphic trail designations and locations. All of the following trail corridor descriptions provide the general alignment of the proposed trails. Prior to actual construction, each trail alignment will need to be specifically located and staked in the field.

**Trail Segment A--** This trail provides a connection from El Dorado Hills Boulevard near the Archery Range south to its intersection with





the Village Green Parkway. The trail corridor is generally aligned along the slope between the archery range and above El Dorado Hills Boulevard in the north and above the golf course on the south end. A short spur trail connects this trail with El Dorado Hills Boulevard immediately north of the golf course. This trail corridor is considered only appropriate for pedestrian/hiking use.

**Trail Segment B--** As an extension of the trail described in A, this segment extends to the south of the Village Green Parkway between the golf course and Village D. The trail corridor then extends around the south tip of Village D and extends north in the open space area which is parallel to Silva Valley Road. The terminus of trail Segment B is at the intersection of the Village Green Parkway and Silva Valley Road, southwest of the Village Green. This trail corridor is considered only appropriate for pedestrian/hiking use.

**Trail Segment C--** At the east edge of the Village Green, Trail Segment C trends to the northwest. This trail segment is a major trail corridor with the trail being designed as a loop and possibly with the surface paved for a measured distance of 5 kilometers (3.1 miles). This trail follows a general alignment on the hillside in the open space area above Village B and below Village H. At the north end of the open space preserve adjacent to the SMUD easement, the trail begins to trend upslope to the east and then turns south to eventually connect with the origin of trail segment C near the Village Green. At various locations, cross-connecting trails may be aligned adjacent to the creeks and wetlands in this area of the open space preserve. These minor trails will not be surfaced. At the north end of the trail segment C in the SMUD easement, two trail spurs connect this trail segment with the major proposed east-west County and EDHCSD trail which runs within the easement. This trail corridor is considered only appropriate for pedestrian/hiking use.

**Trail Segment D --** This trail segment continues the trail corridor from trail segment C to the south of the Village Green Parkway. This trail



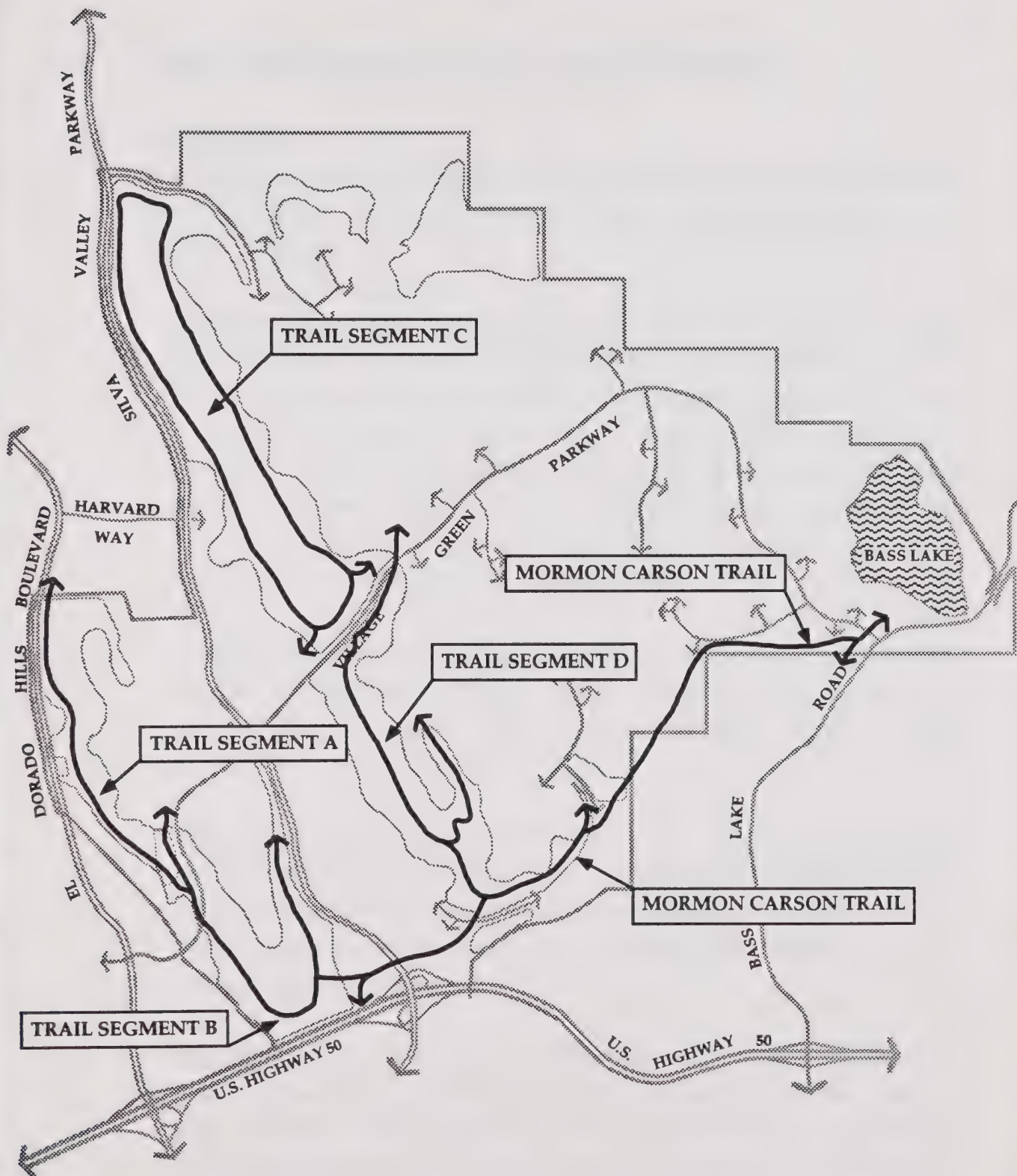
corridor is aligned in the center of the open space area. At the southern end of the open space area adjacent to Village P, the trail connects to the major County trail designated as the Mormon-Carson Trail. Connection to this regional trail system provides a link to the El Dorado National Forest and the other proposed trails in the El Dorado County Trails Master Plan. This trail corridor is considered only appropriate for pedestrian/hiking use, with the exception that the Mormon-Carson trail may be designed for use by equestrians as well as pedestrians.

**The Mormon-Carson Trail** -- As designated in the El Dorado County Trails Master Plan, the Mormon-Carson Trail is intended to approximately correspond to the historic route of the Mormon emigration from the Sacramento Valley east to Pleasant Valley and over the Sierra Crest during 1848. West of Pleasant Valley, this route was used as a haul route for wagons in 1849-50 on their way to Sutter's Fort during the gold rush. In the El Dorado Hills Specific Plan Area, the Mormon-Carson Trail is proposed to be aligned along Carson Creek from where it flows under Hwy. 50 and then northeast to Bass Lake. This trail corridor should be developed to accommodate all trail users.

**SMUD-PG&E Powerline Easement** -- Located in the north section of the Specific Plan Area, The SMUD easement provides a unique opportunity to connect the El Dorado Hills area to the Folsom Lake State Recreation Area and the American River Parkway. The SMUD easement trail provides for a connection to the trails in the Specific Plan area via trail segment C. The El Dorado County Trails Master Plan designates this easement as a study route for trails. In the draft of the El Dorado Hills Community Services District's Recreation Master Plan, this corridor is designated as a inter-County connecting trail corridor. At the present time, the major emphasis of this trail is to the west, with a minor segment of this trail extending east in the northern section of the Specific Plan area. This trail corridor should be developed to accommodate all trail users.







El Dorado Hills Specific Plan Area

## Open Space Trails



NORTH



## **4 Trail Design Standards and Related Facilities**

### **Trail Standards:**

The following trail development standards provide a general guide for the trail widths, surfacing, horizontal and vertical clearances in the open space areas:

Trails Located within the Road Right-of-Way- Trails and pathways located in the natural open space areas and within a public right-of-way should generally be located at least 5 feet from pavement unless a barrier is constructed between the trail and the edge of the roadway. Where road embankments restrict the placement of trails adjacent to the roads, the trails/pathways should generally be located at the top or bottom of the embankments so as to avoid additional cut banks adjacent to the roadways.

Trail Horizontal and Vertical Clearances- Unpaved trail widths should generally be 3'-0" wide, with a minimum 6'-0" horizontal cleared area at shoulder height. Vertical clearance above the trail should be a minimum of 10'-0".

Barriers and Fencing- Where barriers and fencing are needed for safety, they should constructed of natural-looking materials should be provided between trails and steep and hazardous areas. These constructed elements should only be installed where they are necessary for public safety.

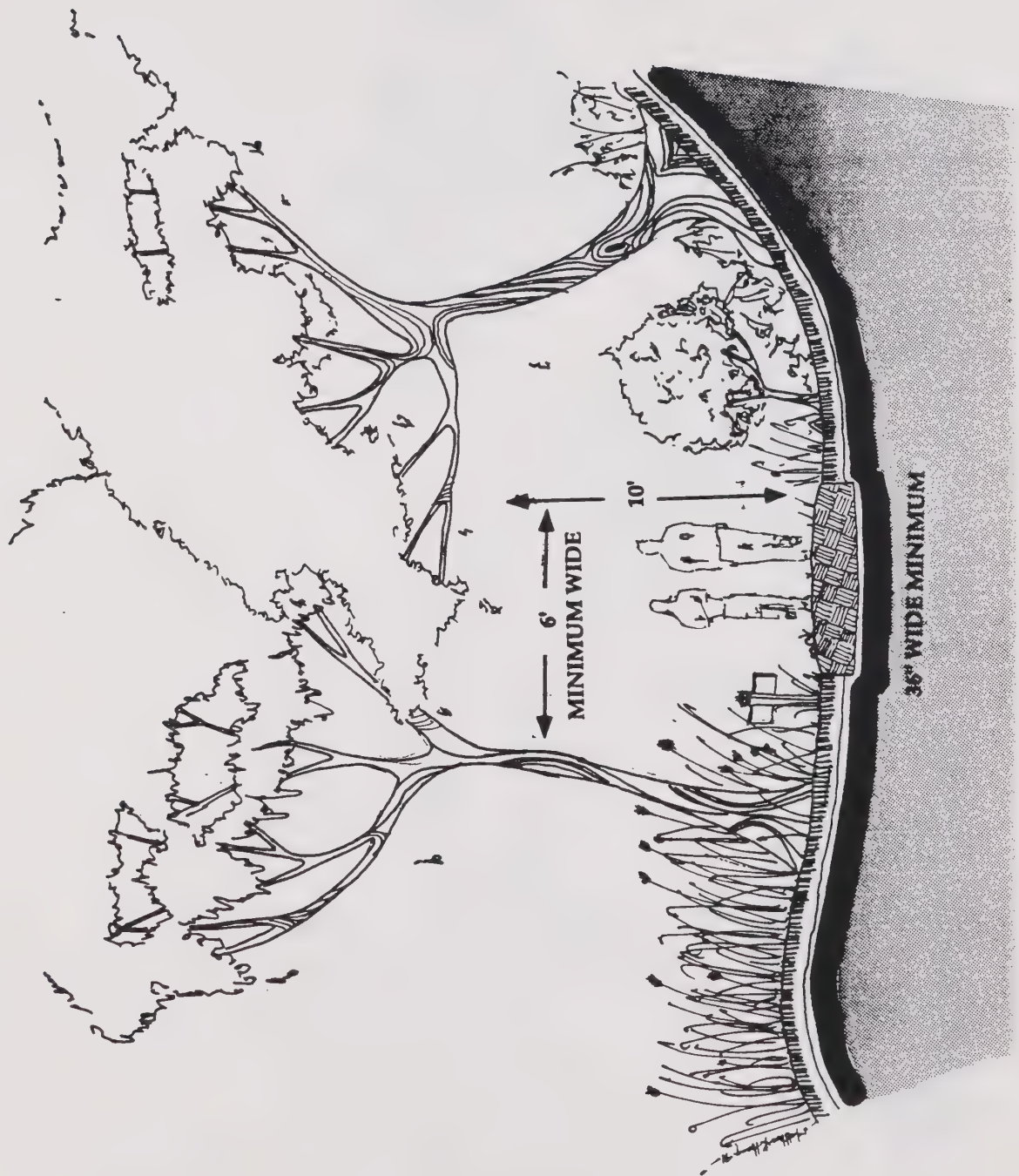
Trail Gradients- Unpaved trails should usually not have gradients greater than 15%. Side-to-side slopes on trails should not exceed 5%. For some trail segments, such as for the proposed trail loop located northeast of the Village Green, the grades should comply with the ADA (Americans with Disabilities Act) requirements for disabled access.



Trail Signage- A standard information and trail signage program will be developed and installed at each major trailhead. Signs at all trailheads will provide standard rules of trail etiquette, fire safety and will indicate trail characteristics such as direction, distance, relative difficulty and distances to connecting trails. At various locations, interpretative panels/signs may be located which indicate unique views, natural features and other open space elements. Mile indicators shall be installed along trails to provide trail distances to known points.







UNPAVED TRAILS

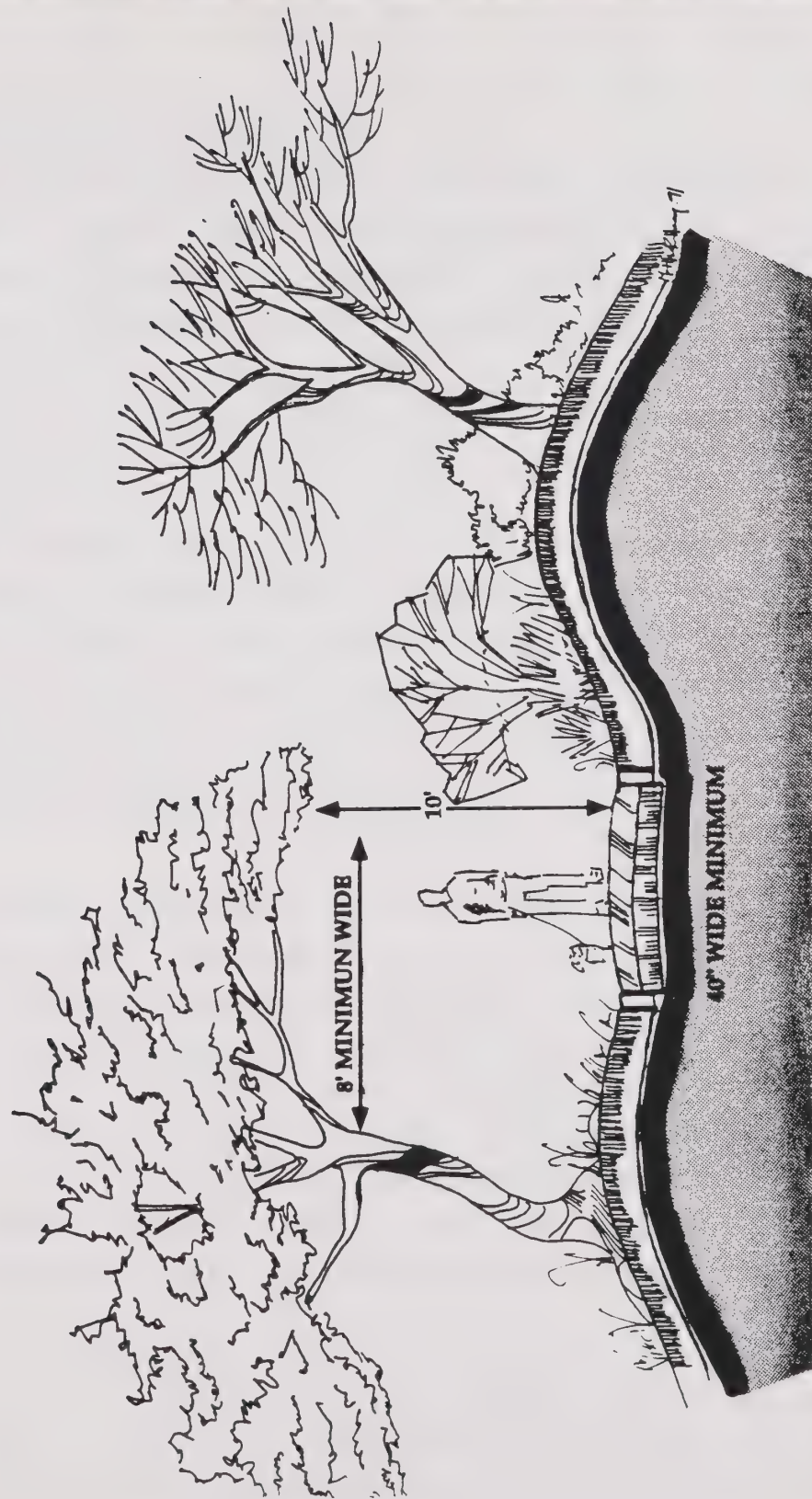
El Dorado Hills Specific Plan Area

Trail Sections



NORTH





PAVED TRAILS

El Dorado Hills Specific Plan Area

Trail Sections



NORTH





**Trail Planning Considerations:**

Visual integrity of the El Dorado Hills open space areas is an important element which must be considered when the actual alignments of the trails are planned. The overall trail design objective in the open space areas is to provide highly aesthetic, non-vehicular connections in the open space areas to all of the important community facilities including the schools, parks, the Village Green and commercial areas.

The trails should be located in the open space areas where they do not impact the recorded historic or archaeologic sites. As part of a possible resource interpretation program which may be implemented by the long-term open space managing entity, the local school districts or the EDHCSD, access to selected historic or archaeologic sites may be provided under supervised conditions if permitted by the EIR for the Specific Plan area.

Consideration should be given to the development of environmental interpretative programs for recreational/educational use in cooperation with the local school districts. This may mean designing some segments of the trail system that includes as many distinct plant communities as possible, or incorporating important viewing areas. The implementation of an interpretative program for the natural environment promotes an understanding and appreciation in youth and adults for the open space resources in the El Dorado Hills natural open space areas.

Where facilities are provided at selected trailheads including parking, restrooms, and water, they must be provided in a manner that does not conflict with adjacent Villages, or distract from the character of the natural open space lands. Most access points will not have developed facilities. Facilities such as parking and restrooms will only be developed in conjunction with a district or community park facility. In general, all facilities will be designed into the trail system and interpretative program in a manner that



will help foster a sense of open space land stewardship, reduce resource damage, reduce required maintenance, and improve user safety.

The Open Space Map displays the general corridor of the proposed trails in the open space areas. In general, the trails are located where they provide access to significant views and interesting natural features. Trails are also located for access to different facilities such as schools and to the various Villages of the Specific Plan while protecting the important habitat areas.

## **SUMMARY OF TRAIL MANAGEMENT RECOMMENDATIONS:**

### ***Short-Term Management Recommendations to be Implemented by the El Dorado Hills Development Company:***

1. Install trail improvements and related safety and erosion control improvements in the natural open space lands which are provided for in the Development Agreement. Consider the construction of trailheads and trails in sequence with the adjacent Villages.

### ***Long-Term Management Recommendations to be Implemented by the Recommended Open Space Management Entity:***

1. Prepare a Capital Improvement Plan (CIP) for 5 years. Plan for the completion of the remaining trail system in the natural open space areas. Work with El Dorado County to complete the County regional trail system in the Specific Plan area (which may be the responsibility of the County to install). Prepare a 1 year and 5 year capital improvement program for trails.
2. Develop an annual budget and maintenance cycle for the trails in the open space areas.



3. Consider the need for and frequency of security patrols and emergency access in all trail development.
4. Solicit interest from the El Dorado Union High School District, the Buckeye and Rescue School Districts and the El Dorado Hills CSD in developing an environmental and cultural resource interpretative program for the open space areas.





## **B. Fire Management**

Fire control and suppression is a public safety issue that is primarily the responsibility of the El Dorado Hills Fire Department and the California Department of Forestry. Considering the effects of fire on the landscape, the effects of control and suppression techniques, and the goals of the Fire Department will help reduce the potential for unexpected and irreparable damage to the natural resources in the open space areas.

### **EXISTING CONDITIONS**

There is no documented history of major fires in the El Dorado Hills Specific Plan Area.

No specific information exists at the present time regarding the various elements which would provide a composite fire hazard severity analysis. The long-term open space management entity should prepare a "Fire Hazard Management Plan" in cooperation with the El Dorado Hills Fire Department and the Calif. Dept. of Forestry (CDF) which considers contributing elements such as current fuel load levels, vegetation, fire and fuel break locations, wind conditions, topography and access. The fire hazard management plan should be an integral portion of the more detailed resource planning studies which the long-term open space management entity will prepare as a part of the overall vegetation management program. The development of a fire hazard management plan for the open space areas which is based on these resource planning studies should provide a balanced set of recommendations within the overall vegetation management program. The practical result of the fire severity analysis should be to provide an integrated set of policy recommendations and guidelines to the El Dorado Hills Fire Department and CDF staff which addresses the anticipation of fire potential as well as in fire suppression access and methods in the natural open space areas.



The California Department of Forestry is the agency which has the primary statutory authority for fire suppression in the open space areas. As a State agency, the CDF operates from several response centers; the closest being Mt. Danaher in Camino, as well as from locations in Amador County. Response times to a fire in the El Dorado Hills Area is intended to be less than 20 minutes. The EDH Fire Department currently does not have a formal district-wide policy on fire suppression or fire management for open space areas. As the agency who will probably be first available for fire suppression in the El Dorado Hills area, the EDH Fire Dept. should work closely with the EDH Development Company (and the designated long-term natural open space entity) in developing a district-wide fire suppression policy and fire suppression guidelines which should be adopted in the proposed Fire Management Plan.

Refer to Appendix B for the Interim Fire Management Plan and recommendations which will provide the basis for the Fire Management Plan to be prepared by the long term open space management agency.

## **INFLUENCING FACTORS**

El Dorado Hills Fire Department-- The California Department of Forestry has the primary responsibility for fire control in the open space areas. Emergency access into the open space areas will be limited to the existing and proposed fire roads and firebreaks which will be located in the open space areas. The emergency fire access points and water availability will be designated in the Open Space Management Plan (and the Fire Management Plan) as the Villages adjacent to the open space areas are designed.

The Policies of the Specific Plan require fuel modifications/fire breaks at the perimeter of the open space areas and at strategic locations, normally along the lateral ridgelines. Additional fuel modification zones are proposed in the Open Space Management Plan adjacent to some riparian areas. In some locations, the fuel modifications may





consist of irrigated zones which are situated adjacent to the mitigation areas and riparian corridors along creeks and streams in the open space areas. Refer to Appendix B for the preliminary locations of the fuel modification zones and fire access locations.

The minimum estimated response time for a fire in the open space areas is approximately ten minutes from the time the fire is reported. This estimate assumes that the EDH Fire Dept. equipment is available at the El Dorado Hills Station. The California Department of Forestry will also respond to all wildland fires in the open space areas and will normally be available for the initial response. The response time for CDF equipment is highly variable, but is estimated at about 20 minutes, depending on other fire demands at the time of the call.

El Dorado Hills Open Space Managing Entity -- The long-term managing entity (El Dorado Hills CSD, Homeowners Association, etc.) for the natural open space lands should have maintenance personnel who are equipped and have basic fire prevention and suppression training. While the selected managing entity for the open space lands will not generally be equipped to manage large fires, the field staff can be effective in front-line suppression until CDF and the EDH Fire Department arrives. The staff/maintenance personnel can also contribute to the management and action of post-fire clean-up, once the threat to public safety is past.

The policies, management, and maintenance of the Open Space Preserves affects the potential for fire and fire damage. Activities such as mowing and disking for fuel modifications and irrigated areas adjacent to roads and structures is a fire prevention technique that is recommended in the El Dorado Hills Specific Plan.

Vegetation-- Vegetation is fuel for fire. The different types and combinations of vegetation in the El Dorado Hills open space lands creates a variety of conditions that would affect the likelihood and seriousness of a fire. Grasses are easily combustible but they are relatively cool fires that burn fast. Chaparral and brush are moderately



easy to ignite and medium to hot in burning temperature. Oak forests are relatively difficult to ignite; however, they burn very hot and can ignite any other type of vegetation.

Typically, the grasslands are adjacent to chaparral and brush, in the east section of the open space areas. These areas often function as a transition to trees and forests. This combination is known as a fuel ladder. If the easily ignitable fuel is adjacent to a source of fire, the potential for significant fire damage is high.

Fire is a natural event in the California landscape. All plant communities native to this region are adapted to fire and post-fire conditions. Fire promotes the regeneration of native plant species in oak forests, chaparral, and grasslands. Many non-native species cannot compete in post-fire conditions which allows native plants to prosper resulting in greater species diversity and a more natural landscape. Many California native plants found in the open space areas also have the ability to recover from fire with root sprouts and seedlings.

Special consideration should be given to the active suppression of wildland fires in the blue oak and valley/live oak forests. Since these areas are among the most valuable habitats for wildlife, the protection of these areas should be a priority to maintain the habitat integrity . The use of destructive fire prevention activities (tree removal, disking, etc.) should be discouraged unless the resource ecologist employed by the open space management agency or the El Dorado Hills Fire District recommends the use of these management practices.

**Landforms** -- The El Dorado Hills natural open space areas have moderate to steep grades that complicate the process of fire prevention, control, and suppression. The location of the fire access points, the fuel modification areas and fire breaks must be carefully evaluated for their visual impact and strategic position. As the adjacent villages are designed, the El Dorado Hills Fire Dept. and CDF will be consulted for the locations of fire and emergency access points and fuel modification zones established. The overall design parameters and detailed





locations for these fire and fuel modifications will then be described in the fire hazard management plan. Upon completion, the Fire Hazard Management Plan will become a chapter of the Open Space Management Plan.

**Public Information and Access** -- Information and basic fire prevention techniques can help to ensure that the introduction of recreational users does not increase the potential for fire. The long-term managing entity of the El Dorado Hills open space lands will provide information and develop an on-going program regarding emergency communications, fire prevention, and other information on interpretative displays at all trail heads and other public access points.

## **SUMMARY OF FIRE MANAGEMENT RECOMMENDATIONS:**

### ***Short-Term Management Recommendations to be Implemented by the El Dorado Hills Development Company:***

1. Complete and refine the Interim Fire Hazard Management Plan (Refer to Appendix B). As each residential village adjacent to the open space lands is designed as part of the Tentative Map, Final Map and Subdivision Improvement Plan process, the locations of fire access roads, fire breaks and fuel modification zones will be specifically located in the adjacent section of the natural open space lands. The general parameters for the design and location of the fuel breaks and tree canopy modification zones is described in the Interim Fire Management Plan. This information will be used as appropriate in the preparation of the Fire Management Plan.

2. Install fire breaks and fuel modification zones, construct fire and emergency access roads, provide water locations for fire equipment and other fire-related improvements which are identified in the Interim Fire Management Plan in cooperation with the CDF and El Dorado Hills Fire Department.





*Long-Term Management Recommendations to be Implemented by the Recommended Open Space Management Entity:*

1. Using the data developed for the baseline vegetative survey, identify fire hazard severity zones in conformance with CDF criteria. Identify fuel loading and other elements which may be modified to reduce the severity for wildland fires. Include this information in the Fire Hazard Management Plan. Recommend additional short and long term improvements for fire protection in the open space areas.
2. Develop an annual budget and maintenance cycle for the fire roads and other fire safety-related improvements in the open space areas.
3. Prepare and install public information signs and brochures at the primary access points into the open space areas regarding fire hazards and fire safety in the open space lands.



## **C. Environmental and Cultural Resource Management**

### **BACKGROUND-**

**Natural Resource Management Defined --** Natural resource management is defined as any activity which is intended to protect, maintain or restore natural resources and processes and which minimizes the impacts of human use. Natural resources include both living (plants, wildlife) and non-living (landforms, soils, water, air) components. These components interact to form ecosystems. Ecosystems are never static, and their components constantly interact, changing as a result of exposure to one another. Changes in ecosystems frequently occur due to the influences of natural processes such as wind, fire and rain, and to human impacts.

Ecosystems are normally very resilient and respond to changes with biological, chemical or physical reactions which compensate for the destabilizing effects of environmental changes. Because of this property, ecosystems have a remarkable ability to tolerate changes and to restore themselves after an outside disturbance.

**The Need for Natural Resource Management --** The impacts of human land use and development have radically altered many natural ecosystems in the El Dorado Hills Area. Most "natural" areas in the west segment of El Dorado County have been heavily influenced and modified by the accidental or intentional introduction of non-native species of plants and animals, by elimination of predators, air pollution and suppression of fires, and by practices such as farming, cattle grazing, firewood cutting and logging.

Natural areas and ecosystems which are disturbed often require some form of manipulation or remedial action in order to restore the normal function and balance of the system. Natural processes may be





inefficient in correcting past abuses. Left alone, a disturbed ecosystem will not necessarily restore itself or succeed to the desired habitat types. Since all parts of an ecosystem are interconnected, any disturbance to one element of an ecosystem will be reflected throughout the system. Even the smallest change can produce unanticipated and unwanted side effects. The net result in the absence of, or improper management practices is that some species of plants or wildlife are lost from the ecosystem.

**Management Techniques** -- Management of natural areas can be described as active or passive. The goal of most natural-area management strategies is to restore the natural balance of the ecosystem in a cost-efficient way within a reasonable time-frame. Active management techniques tend to cost more due to a greater level of effort expended within a short period of time. Passive management techniques tend to be more cost effective due to less intensive effort, but require a longer period of time to accomplish the management objectives.

Active management involves the physical manipulation of the plant and wildlife communities. In some cases, natural processes such as fire, may be reintroduced. In others, disturbance factors may be eliminated or altered, for example, a logjam in a stream may be cleared which is causing flooding problems. Other examples of active management techniques include mowing, clearing, grazing, burning, seeding and planting, hydrologic manipulation and biological and chemical control methods.

Passive management techniques involve the indirect manipulation of an ecosystem to achieve the desired results. Passive management includes the protection of ecosystems by expanding the available habitat, by incorporating buffer zones in natural areas to insulate the interior areas from outside disturbances, by restricting public use, by classification of management areas and types and finally by expansion of the natural areas through additional land acquisition. Since passive management is subtle and occurs over a period of time, the need to



establish a baseline of the managed natural areas through photographs, habitat transects and wildlife population surveys is especially critical to determine if the management program is achieving the desired results.

A regular program of site monitoring is necessary regardless whether an active or passive management program is employed to track the direction of the management program and to provide information relating to the effectiveness of the management actions. Data from the monitoring may indicate the need to shift from passive to active management.

Determination of the stage of ecological succession is extremely important for land management decisions. Knowledge of the extent to which past uses have altered natural successional cycles can indicate when and where active and passive management techniques will be effective. The degree and type of alteration can assist in determining the difficulty of restoring a healthy successional cycle. For example, the soil losses from accelerated erosion or plant understory fuel loading due to fire suppression will cause undesirable effects to the natural area if unmanaged over a long period of time. However, each requires a detailed understanding of the methods to correct these problems and their various ramifications to the overall ecosystem.

## **SUMMARY OF ENVIRONMENTAL AND CULTURAL RESOURCE MANAGEMENT RECOMMENDATIONS:**

### ***Short-Term Management Recommendations to be Implemented by the El Dorado Hills Development Company:***

1. Prepare a general open space tree planting plan which describes the general tree locations, species, planting chronology and approximate numbers to be planted in the natural open space areas.
2. Identify and install protection for identified cultural and historic resources which may be impacted by the



development of the Specific Plan land uses and which comply with the approved EIR Mitigation Measures.

*Management activities by the approved open space managing agency after conveyance of the open space areas:*

1. Retain a project Resource Ecologist on a "Task Order" basis. Initiate and complete the baseline vegetation inventory within the open space lands and especially the open space oak forests to determine relative health and age distribution.
2. Develop a comprehensive habitat management plan for selected plant and animal species as determined by the resource ecologist. Based on the management recommendations for habitat protection, prepare a prioritized implementation schedule within a 5 year program (which is updated each year) for habitat management activities.
3. Develop a budget for the habitat management activities recommended in the habitat management plan.
4. Initiate the open space and tree/vegetation/habitat monitoring program (refer to Appendix A) with assistance from the Dept. of Fish and Game, and the U.S. Fish and Wildlife Service as appropriate.





## SECTION VI

### OPEN SPACE MANAGEMENT AND FUNDING RECOMMENDATIONS

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#### **A. Alternatives and Recommendations for the Open Space Management Lead Agency**

The El Dorado Hills Specific Plan requires that the Open Space Management Plan include recommendations for an appropriate agency or management authority for the natural open space areas in the El Dorado Hills Specific Plan Area.

Several different management options have been considered for the open space preserves. The selection of the appropriate management entity was made based on criteria which include the interest of the agency in open space management, maintenance capabilities and financial and fiscal ability for management. Based on these general criteria, the recommendation of an open space management agency for the open space preserves in El Dorado Hills has been narrowed to the following four alternatives:

**Alternative 1- *The El Dorado Hills Community Services District (EDHCSD)*.** The EDHCSD is the managing agency for parks and recreation in the El Dorado Hills area. The EDHCSD was formed in 1962 by Resolution 98-62 by the El Dorado County Board of Supervisors. In Section 2 of this Resolution, the powers of the EDHCSD are listed. These powers (as related to open space management) include: "Protection against fire.....Public recreation by means of parks including aquatic parks and recreational harbors, playgrounds, swimming pools and recreation buildings".



The EDHCSD currently includes administrative staff as well as park maintenance staff. Several of the park sites in the EDHCSD are undeveloped and the maintenance staff of the EDHCSD are familiar with the need for fire suppression and vegetation management in undeveloped areas similar to the open space areas. The EDHCSD also has historically been involved in greenbelt management in the El Dorado Hills area and is familiar with the need for buffering and management of these areas.

**Alternative 2- *El Dorado County, Parks and Recreation Division.*** The second public agency alternative for the management of the El Dorado Hills Open Space preserves is the County Parks and Recreation Division. This County division was formed in 1987 and has gradually been expanding in staff and capabilities. The County Parks Division utilizes the General Services maintenance personnel for the maintenance of County park sites. Due to their many other priorities, the General Services maintenance crews normally provide only nominal maintenance for the County's developed parks. The County Parks and Recreation Division appears to be primarily interested in the development of active parks and especially athletic facilities for County residents at this time.

The County does not presently have sufficient personnel which can provide for the additional management of 800 acres of open space in the El Dorado Hills area. Additional funding sources for administrative staff, maintenance staff and security personnel would likely be required if the County were to assume the responsibility for management of the open space areas.

**Alternative 3- *Master Homeowners Association (MHA).*** This entity will be formed at the time that residential development occurs in the El Dorado Hills Specific Plan Area. The MHA will be responsible for the maintenance and administration of the private open space lands, private roadway landscaping and private community facilities as designated in the Specific Plan and Development Agreement. Since





this entity is not yet formed, the open space management capabilities of the MHA cannot be determined at this time. The MHA will be funded by dues, fees and assessments in the El Dorado Hills area. The level of funding for the maintenance and operational functions of the MHA will be determined at the time that it is formed by the developers of the Specific Plan Area.

Predicated on the assessment of an overall reasonable cost-per-unit fee, the MHA can be staffed and funded to provide for open space maintenance and administration within the guidelines described in the Open Space Management Plan. Since the MHA will be a local entity which will be governed by the property owners in the Specific Plan area, the MHA will probably be more responsive in the management of the open space areas than would a public agency. Due to the anticipated structure of the MHA, the long term administrative/funding consistency which is needed for the implementation of long term programs such as site restoration, oak reforestation and other open space management programs should be given detailed consideration. In general, the MHA will likely be the agency/entity which will be able to provide the most intensive management of the Open Space areas, but which may also be subject to changes in management consistency as the MHA governing board and memberships change over time.

**Alternative 4- Open Space District.** The California Public Resources Code Sections 5780-5791 provide the statutory authorization for the formation of open space districts in California. Several open space districts have been formed in California under these code sections. The formation of a County (or multi-county) open space district in the Sierra Nevada foothills has been in the discussion stage for several years with local environmental groups. Open space districts typically specialize in the acquisition and long term management of open space lands for resource protection, maintenance of endangered habitats and management of important visual resources. Since the formation of an open space district in El Dorado County is only in the discussion stages, the ability of an open space district to manage the open space preserves



in the El Dorado Hills Specific Plan area cannot be accurately evaluated at this time. In general, the management of the El Dorado Hills Open space lands by an open space management district would generally be considered as the "best" management alternative among those considered. However, due to the considerable obstacles which would have to be resolved before an open space management district could be formed, this alternative should be considered as a long-term option.

The administration of the El Dorado Hills open space preserves by an open space district would provide the agency-longevity needed for the long term stewardship of open space lands. Since open space districts normally employ resource ecologists and biologists which become an integral part of the open space management team, this option provides a potential source of needed expertise "in-house" for the management of the open space areas. Because any open space district would likely manage more than just the open space lands in El Dorado Hills, the management attention which this agency could provide for the El Dorado Hills Open Space Areas would likely be less than the other options identified in this section (with the exception of El Dorado County).

**Recommendations-** Based on an evaluation of the management capabilities of the open space management agency alternatives discussed above, the recommended management agency and sequence for the open space preserves is described in the following paragraphs.

**Interim Open Space Land Manager- *El Dorado Hills Development Company***- In the interim period of development of the Specific Plan, prior to the conveyance of the public open space lands, The El Dorado Hills Development Company should remain the managing entity of the designated open space lands. Since the boundaries of the open space lands in the Specific Plan area will not be defined until each residential subdivision located adjacent to the open space areas is designed and approved, the final boundaries of the open space lands will not be determined until all of the adjacent residential villages are designed. By retaining ownership of the open space lands until these





adjacent villages are completed, the process of negotiating the definitive boundaries between the residential villages and the open space areas will remain uncomplicated with only one owner involved. In addition, the Specific Plan and Development Agreement recognized that this process would occur during the design of the residential villages and therefore did not require a definitive boundary between the open space lands and the residential areas. Instead, the Specific Plan and Development Agreement stipulates that approximately 808 acres are to be designated as natural open space. Of this amount, approximately 450 acres are to be dedicated as public natural open space. An additional 358 acres are designated as private natural open space; the private natural open space may or may not be dedicated to the long term open space management entity. In general, conveyance of the natural open space lands will occur at such time as the last residential village adjacent to a particular open space area is recorded. The public natural open space lands will then be conveyed to the recommended long-term management agency.

**Long Term Open Space Manager- *El Dorado Hills Community Services District & Master Homeowners Association***- When conveyance of the open space areas are proposed, the El Dorado Hills Community Services District is the recommended public open space management agency. However, prior to conveyance, a clear commitment of interest for the long term administration of the public open space lands in the El Dorado Hills area should be provided by the EDHCSD Board of Directors. Concurrently with the acceptance of the public natural open space areas, the EDHCSD should also enter into a long-term lease/management agreement for the public open space lands with the El Dorado Hills Master Homeowners Association (MHA) for the actual day to day operations and maintenance of the public open space areas.

The financial plan included in the Open Space Management Plan should also be updated and approved prior to the conveyance of the open space lands. In particular, the financial plan should provide the EDHCSD and the MHA with the assurance of adequate funding, as well





as reasonable assessments being possible for the MHA for the management and maintenance of the public open space areas.

The EDHCSD is considered to be the most appropriate public agency for the management of the public open space lands since they are currently managing and administering undeveloped park and natural lands in many areas of the District. As more public parks come "on-line" in the EDHCSD, the ability of the maintenance staff to provide their current level of service will probably be reduced. The implementation of property tax changes and reduction of augmentation funding by the State will also significantly effect the ability of EDHCSD to maintain their current level of services, including maintenance and operations. By entering into a long-term lease agreement with the Master Homeowners Association for the operations and maintenance of the public open space lands, the EDHCSD would be relieved of the day-to-day responsibilities and costs of the management of the open space lands. With this type of agreement, the Master Homeowners Association could provide a greater level of management and operational attention for the public open space lands than would probably be provided by a public agency alone such as the EDHCSD. This agreement would also ensure that the underlying title for the public open space lands would remain in the public domain.

*El Dorado County Open Space District-* If an Open Space District is created in El Dorado County at some time in the future, consideration should be given to developing a cooperative management program between this District and the EDHCSD/Master Homeowners Association (MHA) for the public open space preserves in El Dorado Hills. Depending also on the management and operations capabilities of the MHA, a transfer of the management responsibilities to the open space district should also be considered. An Open Space District could generally provide the best management of the open space lands since they are generally the most "resource conscious" of land management agencies. Also, Open Space Districts normally have biologists or resource ecologists on staff which then become an integral part of the management team for open space management decisions. By entering



into a cooperative agreement with an open space agency, the EDHCSD and the MHA will secure invaluable expertise in open space management for the El Dorado Hills area.





### Figure 3-3

Matrix of Open Space Management Agencies  
(Displays Capabilities and Constraints for Management)



## **C. Open Space Funding and Finance Alternatives**

The El Dorado Hills Specific Plan requires that the Open Space Management Plan "consider alternatives for ownership and maintenance of the public natural open space." The Specific Plan also requires that funding strategies be included in the Open Space Management Plan that provides for the development, on-going maintenance and management of the natural open spaces as designated in the El Dorado Hills Specific Plan.

The El Dorado Hills Specific Plan provided for approximately 1,407 acres of different types of open space. The acreage allocation in the Specific Plan by type of open space is delineated below:

Type of Open Space	Acreage
Golf Courses	390 +/-
Public Natural Open Space	450
Private Natural Open Space	358
EID Property adjacent to Bass Lake	155
Neighborhood Parklands	26
District and Community Parks	28
<b>Total =</b>	<b>1,407</b>

The purpose of this Section of the Open Space Management Plan is to analyze the anticipated costs associated with the management and on-going maintenance of the open space areas envisioned by the Specific Plan and to compare these estimated costs against anticipated revenues. The El Dorado Hills Specific Plan and its attendant Development Agreement and Financing Plan anticipated that the El Dorado Hills



Community Services District would operate and maintain the public parks and public natural open spaces to be dedicated in the Specific Plan area.

For the purposes of this section of the Open Space Management Plan, the private natural open space lands are included in the analysis of expenses for the public open space maintenance program. However, the revenue projections for the Homeowners Association (which will probably maintain the private open space lands) are not included in this analysis. These basic assumptions have been used in evaluating the revenues vs. expenses for the Open Space Management Program.

In addition to the maintenance and management expenses anticipated for the natural open space lands, the open space management vs. expense analysis includes the anticipated expenses for the maintenance of the public parklands which will also be a maintenance responsibility of the El Dorado Hills Community Services District. This assumption is consistent with the 1987 preliminary financial analysis performed for the El Dorado Hills Specific Plan by Ralph Anderson and Associates.

Note that the preceding section of the Open Space Management Plan recommends that the Master or Village Homeowners Association may be the best entity to manage and maintain the public natural open space lands. If this recommendation is agreed upon by the County, the EDHCSD and the developer, the assumptions and revenue projections included in this section may have to be revised.

## **1. FINANCING ASSUMPTIONS**

The following assumptions were utilized in preparing the financial analysis for the Open Space Management Plan:

- (1) The Development Agreement provides that the total contribution for improvements to the natural open space, lands, other than land dedication, by the El Dorado Hills Development Company shall be \$275,00. This number will be adjusted annually, based on the rate of inflation as measured by the Cal Trans District 3 cost index.





- (2) The cost of development of the golf courses will be the responsibility of the El Dorado Hills Development Company.
- (3) Ownership and maintenance of the golf courses will be provided for by the EDHDC through membership fees; no public agency contributions will be necessary for operations or maintenance.
- (4) El Dorado Irrigation District will be responsible for the on-going maintenance of the lands adjacent to Bass Lake , designated as parcel "R" and totaling approximately 155 acres.
- (5) Funding for park development will be a combination of development fees, direct improvements provided by the developer and private funding.
- (6) On-going maintenance costs for the private neighborhood parks will be the responsibility of the Master or Village Homeowners Association(s) charged with park and open space maintenance responsibilities.
- (7) Any improvements to the natural open spaces, in excess of the \$275,000 required by the Development Agreement, will be the responsibility of the public agency (or homeowners association) receiving the open space dedication.
- (8) On-going maintenance of the public and private natural open space lands will be the responsibility of the public agency or homeowners association assuming responsibility for the open space lands.
- (9) The El Dorado Hills Community Services District will continue to receive 11.107% of the 1% total property tax.

## **2. FINANCING ANALYSIS**

The Fiscal Impact Analysis (FIA) prepared for the El Dorado Hills Specific Plan by Ralph Andersen & Associates (1987) assumed that the six public parks would be constructed by the El Dorado Hills Development Company and maintained by the El Dorado Hills Community Service District (EDHCSD). The FIA estimated the total annual maintenance cost of the parks would be approximately \$147,000 per year. The analysis further assumed that the on-going maintenance cost of the natural open space lands would be approximately \$73,000 per



year, primarily for annual disking and insurance. This analysis for overall Open Space Management Plan incorporates those assumptions.

Table I identifies the cost of the proposed open space management programs identified in this Open Space Management Plan. The projected park maintenance costs as identified in the Ralph Andersen FIA for the Specific Plan is also included to provide an all-inclusive view of the expected maintenance costs and responsibilities for the EDHCSD. The total accumulated cost for all programs and maintenance over a 20 year period is projected to be \$8,283,975. At year 15, the annualized costs for the open space and park maintenance is projected maximize at \$504,110 per year. This amount is to be funded from the 11.107% EDHCSD's share of the 1% property tax valuation. Note that the actual annual costs start out much lower than this amount and progressively builds as additional maintenance and administrative responsibilities are added by the managing entity.

Table I  
Open Space Management and Maintenance Costs

Management/Maintenance Responsibility	Annual Cost	20 Year Total Cost (1)
Trails, Roads and Firebreaks		
Design Cost	0.	\$8,500.
Maintenance Costs	0.	\$31,875.
Tree Planting Design	0.	\$5,000.
Resource Ecologist	\$25,000.	\$145,000.
Oak Forest Management and Restoration	\$70,000.	\$350,000.
Fire Management Masterplan	\$5,000.	\$43,000.
Open Space Monitoring Program	\$10,000.	\$200,000.
Trail Improvements, Phase I	0.	\$275,000.





Trail Improvements, Phase II	\$20,000.	\$400,000.
Trailheads, Signage Improvements	\$30,000.	\$90,000.
Trail Maintenance	\$94,000.	\$1,880,000.
Maintenance Equipment	\$12,110.	\$95,600.
Fuel Loading and Vegetation Management	\$15,000.	\$300,000.
Public Information/Signs	\$3,000.	\$60,000.
Firebreak Mowing/Disking & Insurance (2)	\$73,000.	\$1,460,000.
Park Maintenance (2)	\$147,000.	\$2,940,000.
Totals	\$504,110.	\$8,283,975.

(1) Some recommended management programs are funded for less than 20 years; these totals are also displayed in this column.

(2) Totals are derived from the 1987 Ralph Anderson FIA Study

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Table II provides a distribution of the anticipated program costs to the designated agency which is responsible for implementing the recommended open space management programs. The costs identified in Table II are divided between the El Dorado Hills Development Company and the El Dorado Hills Community Services District, with annual and capital costs identified in two respective columns under each entity heading. Each cost component is preceded by an alpha numeric code which corresponds with Subsection 3 titled "Open Space Management Recommendations and Costs".



TABLE II  
CAPITAL COSTS AND ANNUAL MAINTENANCE COSTS REQUIRED BY THE  
OPEN SPACE MANAGEMENT PLAN

(x 1991 Dollars)

EDHDC		EDHCSD	
Interim Annual Maintenance:		A.	B.
<u>Annual Maint Costs</u>	<u>One-Time Cap Costs</u>	<u>Annual Maint. Costs</u>	<u>One Time Cap Costs</u>
\$31,875	\$13,500		
<u>Vegetation Mgmt. Program:*</u>			
		(A1.a) \$25,000	
		(A2.a) \$70,000	
		(A3.a) \$5,000	
		(A4.a) \$10,000	
		Subtotal = \$110,000	Subtotal = 0
<u>Trail Mgmt Program:*</u>			
		(B1.a) \$275,000	
		(B1.a) \$20,000	
		(B1.b) \$30,000	
		(B2.a) \$82,000	
		(B2.b) \$12,000	
		(B2.C1) \$1,500	\$15,000
		(B2.C2) \$500	\$5,000
		(B2.C3) \$5,600	\$56,000
		(B2.C4) \$2,250	\$9,000
		(B2.C5) \$760	\$7,600
		(B2.C6) \$1,500	\$3,000
		Subtotal = \$156,110	\$370,600.



Fire Management Plan:\*

(C1.a)      \$15,000

(C3.a)      \$3,000

**Subtotal =              \$18,000**

Park Maintenance              \$73,000

Insurance and Firebreak Disking      \$147,000

**Totals:**

<b>\$31,875</b>	<b>\$13,500</b>	<b>\$504,110</b>	<b>\$370,600</b>
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\* Note: All costs are referenced to codes found in subsection 3 of this Finance Section, titled "Open Space Management Programs and Estimated Costs".

Table II provides a summary of the costs associated with development and maintenance of public natural open space and maintenance of the public parks within the El Dorado Hills Specific Plan area. The \$13,500 in capital costs identified as the responsibility of the El Dorado Hills Development Company (EDHDC) are for the installation of trails, fire access roads, firebreaks, fuel modifications and tree planting plan to be accomplished prior to conveyance of the natural open space areas. This amount will be credited against the \$275,000 limit on funding from EDHDC as set forth in the Development Agreement executed by EDHDC and El Dorado County. The \$31,875 in annual maintenance costs assumes that the EDHDC will incur some interim management expenses due to the programs recommended in the Open Space Management Plan for the EDHDC. These expenses will occur prior to the dedication of the open space areas from the EDHDC to the EDHCSD or other entity such as the master homeowners association. Table II also assumes that the EDHCSD begins some maintenance activities in the open space areas in Year 2.

The EDHCSD portion of Table II indicates an estimated total annual maintenance cost of \$504,110 per year. This includes the cost items identified in Table I plus the annual maintenance costs identified in





the Ralph Andersen & Associates Fiscal Impact Analysis for public parks as well as the program costs identified in the open space management plan. Items B2.C1 through B2.C6 are estimates of annual depreciation costs for equipment replacement, initial capital outlay for equipment is identified in column B of EDHCSD Table II. Total capital cost for the EDHCSD is estimated to be \$370,600, \$275,000 of which will come from the EDHDC. In accordance with the Development Agreement, the \$275,000. is indexed to the Cal Trans District 3 cost index and will therefore be a continually increasing amount, depending upon when the improvements are actually funded.

The Specific Plan and Development Agreement assumes that the natural open spaces and some of the parks will be maintained by the El Dorado Hills Community Services District or other public entity. Table III is a comparison of estimated tax-based income to an assumed public management entity, with projected expense and the estimated net surplus/deficit (based on Ralph Anderson and Associates original estimates) identified in the right-hand column.

**TABLE III**  
**Ralph Andersen Fiscal Impact Analysis for Park Maintenance  
and Open Space Management**

Year	Revenue	Costs	Surplus/Deficit
1	68,080	0	68,080
2	138,140	65,220	72,920
3	261,530	70,440	191,090
4	367,411	105,660	261,751
5	471,986	110,880	361,106
6	756,561	116,100	460,461
7	691,132	121,320	569,812
8	801,444	156,540	664,904
9	910,907	161,760	749,147
10	1,053,580	166,980	886,600



**TABLE III (Continued)**  
**Ralph Andersen Fiscal Impact Analysis for Park Maintenance**  
**and Open Space Management**

Year	Revenue	Costs	Surplus/Deficit
11	1,150,435	172,200	978,235
12	1,245,641	204,420	1,041,221
13	1,330,945	209,640	1,121,305
14	1,407,586	214,860	1,192,726
15	1,459,235	220,080	1,239,155
16	1,490,890	220,080	1,270,810
17	1,510,883	220,080	1,290,803
18	1,530,877	220,080	1,310,797
19	1,547,871	220,080	1,327,791
20	1,547,871	220,080	1,327,791

Table III indicates that the EDHCSD would have a \$1,327,791 net surplus, revenue over expenses, at the end of a twenty year period. However, Table III is based only on the projections of the Ralph Anderson study for the open space areas and parks and assumes a maximum annual maintenance and management cost of \$73,000 for natural open space and \$147,000 for park maintenance. It does not include the additional costs identified in this Open Space Management Plan.

Table IV uses the same revenue estimates but in this case utilizes the annual maintenance costs developed in Table I for the complete proposed open space management program. The analysis of costs in Table IV utilizes the same assumptions, but with the overall open space program, as found in Table III. These assumptions include projections based on open space management activities starting in year two at an approximate 29% rate of growth. The assumptions also





project that all natural open space lands are conveyed and maintained, as well as the public parks, to the EDHCSD by year 15. Table IV supports that the EDHCSD will receive adequate tax revenues to fully compensate for the maintenance of the open space lands in the El Dorado Hills Specific Plan area. In fact, based on the assumptions included in this study, the EDHCSD would have a net annual surplus of \$1,043,761 at the end of the 20 year projection,

**TABLE IV**  
**Projected Open Space Lands**  
**Annual Maintenance Costs, Revenues and Net Balance/Deficit**

Year	Revenue	Revised Costs	Surplus/Deficit
1	68,080	0	68,080
2	138,140	149,418	(11,278)
3	261,530	161,366	100,164
4	367,411	242,074	125,337
5	471,986	252,257	219,729
6	576,561	266,019	310,542
7	691,132	277,966	413,166
8	801,444	358,674	442,770
9	910,907	370,622	540,285
10	1,053,580	382,619	670,961
11	1,150,435	394,567	755,868
12	1,245,641	468,369	777,272
13	1,330,945	480,366	850,759
14	1,407,586	492,314	915,272
15	1,459,235	504,110	955,125
16	1,490,890	504,110	986,780
17	1,510,883	504,110	1,006,773
18	1,530,877	504,110	1,026,767
19	1,547,871	504,110	1,043,761
20	1,547,871	504,110	1,043,761



### 3. SUMMARY OF OPEN SPACE MANAGEMENT PROGRAMS AND ESTIMATED COSTS

#### A. Summary of Vegetation Management Recommendations

##### *Short-Term Management Recommendations to be Implemented by the El Dorado Hills Development Company:*

1. Install trails and fire access roads, firebreaks and fuel modifications. (Note: trails are to be co-located with fire breaks and fire roads where possible).

- a. Estimated initial design and siting cost:  
(includes field locations, obstacle removal, etc.) \$8,500.
- b. Estimated annual maintenance costs: mowing  
fire and fuel breaks @ 56,100 l.f. \$31,875.

2. Prepare an open space tree planting plan for County review and approval which describes the general tree locations, species and approximate numbers to be planted in the natural open space areas.

- a. Estimated year 1 cost: \$5,000.

3. At the option of the El Dorado Hills Development Company, begin testing of native species types for revegetation and restoration in cooperation with the El Dorado Resource Conservation District, the University of California Agricultural Extension Service and other agencies.

- a. Estimated annual cost is unknown (depends entirely on level of effort expended).

##### *Management activities by the approved open space managing agency after conveyance of the open space areas:*

1. Retain a project Resource Ecologist on a "Task Order" basis. Initiate and complete the baseline vegetation inventory within the



open space lands and especially the open space oak forests to determine relative health and age distribution.

- a. Estimated annual cost: (years 1-3) \$25,000.  
(years 4-10): \$10,000.

2. Develop masterplan for oak forest management, planting and restoration. Include a prioritized implementation schedule within a 5 year program (which is updated each year) for oak forest management activities.

- a. Estimated annual implementation cost, years 1-5 (includes planting materials): \$70,000.

3. Develop a fire management and suppression masterplan in cooperation with the El Dorado Hills Fire Department and the California Department of Forestry.

- a. Estimated year 1 cost: \$5,000.
- b. Annual update cost: \$2,000.

4. Initiate the open space and tree/vegetation monitoring program (refer to Appendix A).

- a. Estimate annual cost: \$10,000.

## **B. Summary of Trail Management Recommendations**

*Short-Term Management Recommendations to be Implemented by the El Dorado Hills Development Company:*

1. Install trail improvements and related safety and erosion control improvements in the open space lands which are outlined in the Development Agreement.

- a. Cost (per Development Agreement; funded by CFD)  
(Refer also to A-1 for trails) \$275,000.





*Long-Term Management Recommendations to be Implemented by the Recommended Open Space Management Entity:*

1. Complete the installation of the remaining trails in the open space areas. Work with El Dorado County to complete the County regional trail system in the Specific Plan area (a portion which may be the responsibility of the County to install). Prepare a 1 year and 5 year capital improvement program for trails.

- a. Estimated annual cost for trail construction (years 1 & 2)  
\$75,000.  
to estimated total maximum for trail development of:  
(\$400,000.)
- b. Estimated annual cost: trailheads and signage,  
information programs (years 1-3): \$30,000.

2. Develop an annual budget and maintenance cycle for the trails in the open space areas. ( Cost Source: The El Dorado Hills Community Services District, Letter of 6/91)

- a. Estimated annual maintenance costs, personnel:
  - Park Ranger/Maintenance Supervisor: \$52,000.
  - Maintenance Worker 1: \$30,000.
- b. General maintenance work, trash pick-up, etc. \$12,000.
- c. Maintenance Equipment:
  - 1. 3/4 ton truck (capital cost of \$15,000, replace in 10 years)
  - 2. Utility Trailer (capital cost of \$5,000, replace in 10 years)
  - 3. (2) 50 hp. Tractors (capital cost of \$28,000 ea, replace in 10 years).
  - 4. (2) flail mower attachments (capital cost of \$4,500 ea, replace in 4 years)
  - 5. (2) Sweeper brush attachments (capital cost of \$3,800 ea, replace in 10 years).
  - 6. Misc. small hand tools (capital cost of \$3,000, replace in 2 years)
  - Total for Maintenance Equipment \$95,600.



3. Consider security patrols and emergency access in all trail development.

a. Estimated annual costs: (Included in B 2 above)

4. Solicit interest from the El Dorado Union High School District, the Buckeye and Rescue School Districts and the El Dorado Hills CSD in developing the environmental and cultural resource interpretative program for the open space areas.

a. Estimated annual cost: Unknown, depends on level of effort

### **C. Summary of Fire Management Recommendations**

#### ***Short-Term Management Recommendations to be Implemented by the El Dorado Hills Development Company:***

1. Complete and update the Interim Fire Hazard Management Plan as new information becomes available. As each residential village adjacent to the open space lands is designed, the locations of fire access roads, fire breaks and fuel modification zones will be specifically located in the adjacent section of the open space lands. This information will then be included in the Interim Fire Hazard Plan.

a. Estimated annual cost: (refer to costs for A. 1a and b for the EDHDC).

2. Install fire breaks and fuel modification zones, construct fire and emergency access roads, provide water locations for fire equipment and other fire-related improvements which are identified in the Interim Fire Hazard Plan and as requested by the El Dorado Hills Fire Department and the Calif. Division of Forestry.

a. Estimated annual cost @ 56,100 l.f. of firebreaks and fuel modification zones: (refer to A. 1a and b for the EDHDC).





***Long-Term Management Recommendations to be Implemented by the Recommended Open Space Management Entity:***

1. Using the data developed for the baseline vegetative survey, identify fire hazard severity zones in conformance with CDF criteria. Identify fuel loading and other elements which may be modified to reduce the severity for wildland fires. Include this information in the fire hazard management plan. Recommend additional short and long term improvements for fire protection in the open space areas.

a. Estimated year 1 cost: \$15,000.

2. Develop an annual budget and maintenance cycle for the fire roads and other fire safety-related improvements in the open space areas.

a. Estimated annual cost: (Refer to A. 1a and b for the EDHDC and A. 3a and b for the long-term management agency)

3. Prepare and install public information signs and brochures at the primary access points into the open space areas regarding fire hazards and fire safety in the open space lands.

a. Estimated annual cost: \$3,000.

**D. Summary of Resource Management Recommendations**

***Short-Term Management Recommendations to be Implemented by the El Dorado Hills Development Company:***

1. Prepare an open space tree planting plan for County review and approval which describes the general tree locations, species and approximate numbers to be planted in the natural open space areas.

a. Estimated annual cost: (Refer to A. 2a)



2. Identify and install protection for cultural and historic resources which may be impacted by the development of the Specific Plan land uses and which complies with the approved EIR Mitigation Measures.

a. Estimated Cost: Unknown

*Management activities by the approved open space managing agency after conveyance of the open space areas:*

1. Retain a project Resource Ecologist on a "Task Order" basis. Initiate and complete the baseline vegetation inventory within the open space lands and especially the open space oak forests to determine relative health and age distribution.

a. Estimated cost: Refer to A-1a for the long-term open space management agency.

2. Develop a comprehensive habitat management plan for selected plant and animal species as determined by the resource ecologist. Based on the management recommendations for habitat protection, prepare a prioritized implementation schedule within a 5 year program (which is updated each year) for habitat management activities.

a. Estimated annual cost: Refer to A 1a for the long-term open space management agency.

3. Develop a budget for the habitat management activities recommended in the habitat management plan.

a. Estimated annual cost: Refer to a A. 1a for the long-term open space management agency.

4. Initiate the open space and tree/vegetation/habitat monitoring program (refer to Appendix A) with assistance from the Dept. of Fish and Game, and the U.S. Fish and Wildlife Service as appropriate.

a. Estimated annual cost: Refer to A. 1a for the long-term open space management agency.



# **APPENDIX A**

## **RECOMMENDED VEGETATION MONITORING PLAN**

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### **RECOMMENDED VEGETATION MONITORING PLAN**

The following procedures are proposed as part of a program to document vegetation conditions and trends. These should be conducted initially to form a baseline from which to compare future results, and conducted again every two to three years to monitor changes.

### **MINIMUM MONITORING EFFORT**

1. Permanent study areas should be established and marked. A minimum of four sites are recommended. These should include one in a high use area, one in a remote, lightly used area, one on a typical southern exposure, and one on a northern or similarly protected slope. Each site should include a staked (using metal stakes) plot measuring approximately 100 feet by 100 feet. Plots should be mapped and numbered or named for future reference.
2. Establish photo points and record baseline photographs. The following figure shows an example of how to set up these points:

(SEE DIAGRAM ON PAGE :)

Color photos should be taken initially in spring (early May) and late summer (late August). Regular monitoring photos should be taken on a yearly basis at both spring and late summer times.





3. Monitoring records should be kept for such parameters as:
  - Photo dates
  - Current season's rainfall
  - Level of year's grazing (if any)
  - Evidence of erosion in or near each plot
  - General appearance of vegetation cover
4. Sampling of each plot should include:
  - Annual measurement of vegetation height (average and maximum) within the plot, recorded on the same dates as photos are taken.
  - Visual estimate of percent bare ground and proportions of weeds, native plants versus shrubs and trees.
  - A minimum of 200 point samples (record species) taken from paced or tape measure transects within the plot; record sample points as species (if known), or at least as grass, forb, bare ground, and weed. Record only one plant (species or type) or bare ground for each point. This sampling should be conducted in late spring when most plant species are mature and identifiable.

Completion of these four basic procedures will allow for a general evaluation of the condition and trend of vegetation in each plot. Care must be taken in integrating rainfall and level of modifications such as grazing or site use when drawing conclusions from the sampling data.

### **RECOMMENDED MONITORING ADDITIONS**

A more accurate evaluation can be obtained through more detailed sampling. This will require basic botanical taxonomic skill in identifying most of the plants present in the grassland (at least to genus), plus an extended time commitment. The following are recommended sampling procedures to provide more precise data:



- Conduct annual line intercept transect sampling (total of 200 one-foot samples) within each plot. Transects should begin either at an established corner stake or other identifiable (relocatable) point, and proceed along a tightly stretched tape to another relocatable point, recording the distance intercepted by each species within each foot. A final tabulation of total distance by each species will yield estimates of dominance. Groupings of weeds and desirable species can be compared to monitor range trend. This sampling can replace the paced transects used in procedure 4 of the minimum effort.
- Record overall vegetation height (average and maximum) on a monthly basis between January and June. This will show seasonal growth patterns and provide a comparison for year-to-year responses to rainfall and stocking rate.
- Conduct baseline and periodic clipping sampling to determine actual site productivity. All above-ground plant tissue within one square foot samples (10 to 20 total for each plot) should be collected in early summer after growth has been completed. Tissue samples should be air dried, weighed, averaged for each plot, and then extrapolated to give pounds per acre estimates. The clipping samples should be located randomly within the 100' by 100' plot. Clipping should be conducted initially to establish baseline conditions, and again every two to three years to monitor trends.
- Low altitude, oblique air photos should be taken of the permanent study plots every two to three years to provide a good qualitative record of each area's general condition. Date, altitude and angle of the photos should be recorded and standardized to the extent possible.

## **ADDITIONAL MONITORING OPTIONS**

Depending on the level of effort budgeted and the extent of habitat enhancement undertaken, additional monitoring could be valuable in





documenting vegetation changes and experimental successes. The following are possible additions to the monitoring program:

- Establish additional monitoring plots in areas with restricted or curtailed use. This would be most appropriate in the northern part of the suggested wildlife area, and should utilize a combination of photos and quantitative sampling.
- Small enclosures (for both deer/cattle protection) could be established in woodland and/or savanna areas to monitor tree and shrub regeneration.
- Photo points and perhaps permanent plots or transects should be incorporated into any spring or seep protection and enhancement efforts.

## **MONITORING COSTS**

Rough estimates of the effort involved for the minimum and recommended monitoring programs are as follows:

- Minimum effort: 5 person-days per year plus 1-2 additional days for baseline plot establishment.
- Recommended effort: 10 to 15 person-days per year depending on taxonomic skill of the investigator.



## APPENDIX B

### INTERIM FIRE MANAGEMENT PLAN

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Within the public and private natural open space areas located adjacent to all Villages A, B, C, D, E, F, G, H, I, J, K, L & M, provide for the following interim fire improvements and site modifications:

**Fuel/Fire Breaks-** The El Dorado Hills Development Company shall install or provide for a 30 foot fuel/fire break adjacent to the rear property lines of all lots which abut the public and private natural open space areas. The fuel break can be either permanently installed or annually re-established. The location of this fuel/fire break shall be reviewed by the California Dept. of Forestry.

Fires starting the lower elevations of the open space areas will tend to burn uphill in the ravines or "draws". Therefore, provide for lateral fuel breaks in the ravines or draws adjacent to the wetlands mitigation locations. Where possible (and cost-effective) expand the wet areas by irrigation or other means to provide for enlarged fire resistant zones in the draws. Review the locations and widths of the wet areas with the California Dept. of Forestry. Install these fuel modified zones at the time that the wetlands mitigation areas are established. Establish an annual maintenance cycle for the mowing or re-establishment of these lateral fuel breaks.



**Fire/Emergency Access Points-** Where the open space lands are located adjacent to streets or roads, provide for access points approximately every 1/4 mile for emergency vehicle access into the open space areas. Provide street markers or other methods for indication of access locations for emergency equipment access. Review the locations with the California Dept. of Forestry prior to installation. Provide for emergency access into the interior of the open space areas by fire access roads or along service roads located on water and sewer lines. Prepare an overall open space access plan which is approved by the Calif. Dept. of Forestry and the El Dorado Hills Fire Department.

The El Dorado Hills Development Company (or its successor in interest) shall install crossing points on all of the swales and drainage channels in the open space areas so as to allow fire protection vehicles access to all of the lateral ridges in the open space areas. The California Department of Forestry shall review the locations of all of the proposed crossing points. The crossings shall be installed prior to the issuance of the first building permits, or as otherwise required by the Calif. Dept. of Forestry and the El Dorado Hills Fire Department.

**Tree Canopy Modification Zones-** On the boundaries of the open space lands which are adjacent to residential lots where trees exist, provide for a 30 foot minimum horizontal distance where all low hanging branches from trees are trimmed up to a height of at least 10 above ground level to eliminate a "fire ladder" from the ground to the tree canopies. Where the adjacent trees are higher than 30'-0", the canopy modification zone in horizontal distance should equal the height of the trees. This width of the canopy modified zone may be shared by the residential lots and the open space areas. The canopy- fuel modification zone area will be reviewed by the California Dept. of Forestry and must be completed as part of the overall fire system improvements which are required prior to the issuance of building permits for residential structures on the adjacent lots.





Where trails are located, trim and remove all low-hanging all tree limbs to a minimum of 10 feet above ground level within 50 feet on each side of the trail to eliminate a "fire ladder". This fuel modification strategy will be reviewed by the California Dept. of Forestry and will be implemented at the time that the adjacent trails are installed.

**Residential Open Space-** Require in the Village or Master CC & R's, a 30 foot landscaped strip utilizing fire-resistant landscaping of approved species (as specified in the Design Guidelines) on the rear property lines of all residential lots which are contiguous to public and private natural open space. Note that this landscaped area may overlap the rear lines of lots which abut the open space areas if approved by the open space management agency.

Require within the Master or Village CC and R's that all unbuilt lots located adjacent to structures shall have a perimeter fire break installed which is disked or mowed to provide a fuel break a minimum of 15 feet from the edge of lot line.



Figure

Maps of Interim Fire Management Recommendations



# Appendix B

## Interim Fire Management Recommendations



### VESTING TENTATIVE MAP

## Villages I & L El Dorado Hills

El Dorado Hills Development Co.  
Developer

El Dorado County, California

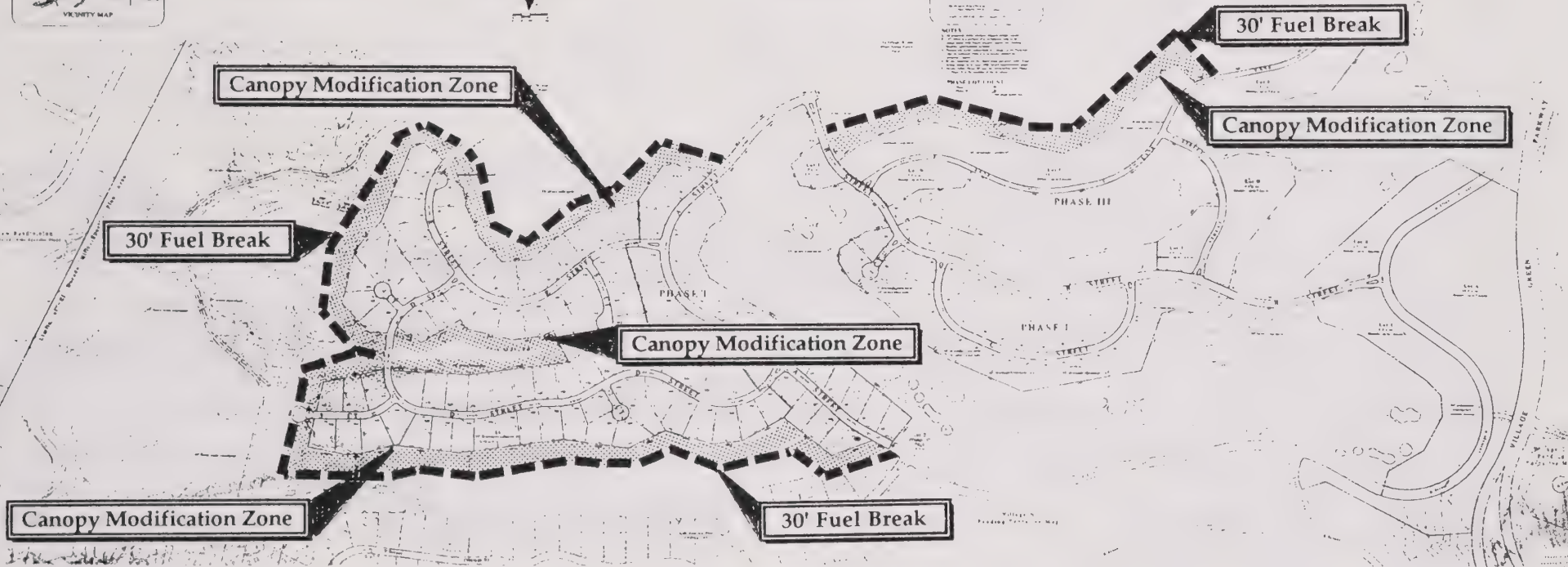
Guzzardo & Associates  
Land Planner

MacKay & Somp  
Civil Engineer



PHASE III MAP PROJECTIONS

PROJ. NO.	PROJ. NAME	PROJ. DATE	PROJ. STATUS
1	PHASE III MAP PROJECTIONS	10/1/00	IN PROGRESS
2	PHASE III MAP PROJECTIONS	10/1/00	IN PROGRESS
3	PHASE III MAP PROJECTIONS	10/1/00	IN PROGRESS
4	PHASE III MAP PROJECTIONS	10/1/00	IN PROGRESS
5	PHASE III MAP PROJECTIONS	10/1/00	IN PROGRESS
6	PHASE III MAP PROJECTIONS	10/1/00	IN PROGRESS
7	PHASE III MAP PROJECTIONS	10/1/00	IN PROGRESS
8	PHASE III MAP PROJECTIONS	10/1/00	IN PROGRESS
9	PHASE III MAP PROJECTIONS	10/1/00	IN PROGRESS
10	PHASE III MAP PROJECTIONS	10/1/00	IN PROGRESS







# Appendix B

## Interim Fire Management Recommendations



### VESTING TENTATIVE MAP

## Village H El Dorado Hills

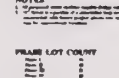
El Dorado County, California

El Dorado Hills Development Co.  
Developer

Guzzardo & Associates  
Lead Planner

MacKay & Somp  
Civil Engineer

PROPERTY MAP DESCRIPTION	
Phase I	1.0000
Phase II	1.0000
Phase III	1.0000
Phase IV	1.0000
Phase V	1.0000
Phase VI	1.0000
Phase VII	1.0000
Phase VIII	1.0000
Phase IX	1.0000
Phase X	1.0000
Phase XI	1.0000
Phase XII	1.0000
Phase XIII	1.0000
Phase XIV	1.0000
Phase XV	1.0000
Phase XVI	1.0000
Phase XVII	1.0000
Phase XVIII	1.0000
Phase XIX	1.0000
Phase XX	1.0000
Phase XXI	1.0000
Phase XXII	1.0000
Phase XXIII	1.0000
Phase XXIV	1.0000
Phase XXV	1.0000
Phase XXVI	1.0000
Phase XXVII	1.0000
Phase XXVIII	1.0000
Phase XXIX	1.0000
Phase XXX	1.0000



COLLECTOR STREETS  
(Phase I)

RESIDENTIAL & CUL-DE-SAC STREETS  
(Phase I)

RESIDENTIAL & CUL-DE-SAC STREETS  
(Phase I)

TWO-WAY LANE  
(Phase I)

ONE-WAY LANE  
(Phase I)

PHASE LOT CORNER  
(Phase I)

NOTES:  
1. All phases are subject to the same conditions.  
2. All phases are subject to the same conditions.

30' Fuel Break

30' Fuel Break

Canopy Modification Area

Open space access corridors

Canopy Modification Area

Open space access corridors



# Exhibit E Interim Fire Management Plan Village E

## Village E El Dorado Hills

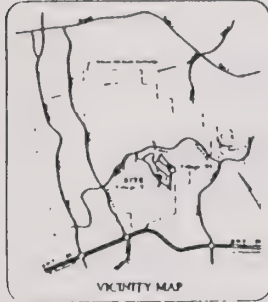
(includes Villages E1 & E2)

El Dorado County, California

El Dorado Hills Development Co.  
Developer

Guzzardo & Associates  
Lead Planner

MacKay & Somp  
Civil Engineer



**PHASE I MAP INFORMATION**

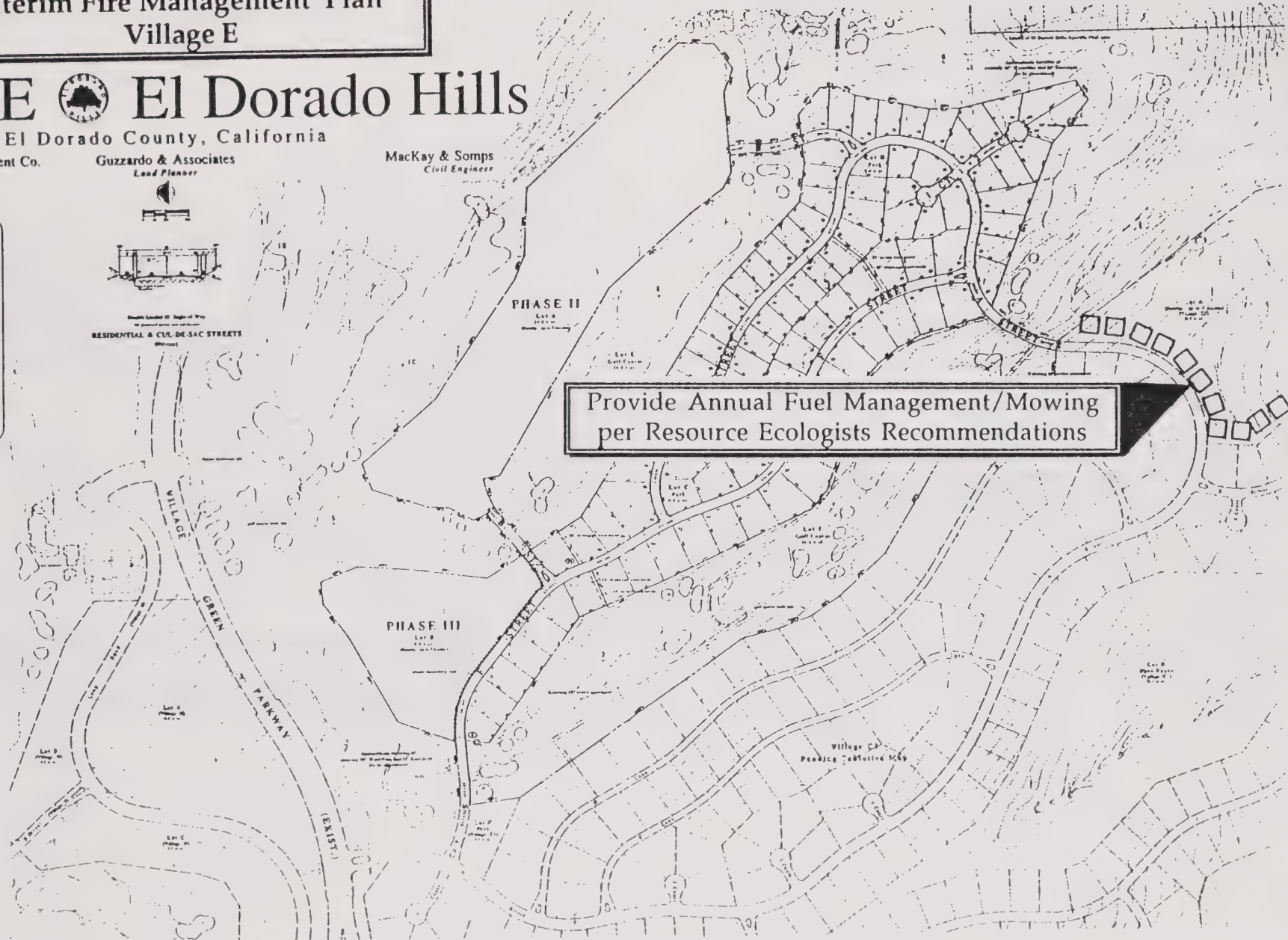
Feature	Symbol	Notes
Phase I Boundary	Thick solid line	Phase I Boundary
Phase II Boundary	Thin solid line	Phase II Boundary
Phase III Boundary	Dashed line	Phase III Boundary
Residential Street	Thin solid line	40' wide
Cul-de-sac	Thin solid line with dead-end	40' wide
Highway	Thick solid line	100' wide
Water Feature	Blue wavy line	Water Feature
Topography	Contour lines	Topography
Vegetation	Shaded areas	Vegetation
Utilities	Thin dashed line	Utilities
Other	Various symbols	Other

### PHASE I MAP COUNT

1. Phase I Boundary  
2. Phase II Boundary  
3. Phase III Boundary  
4. Residential Street  
5. Cul-de-sac  
6. Highway  
7. Water Feature  
8. Topography  
9. Vegetation  
10. Utilities  
11. Other

### NOTES

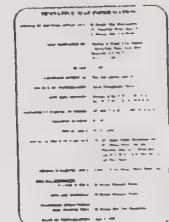
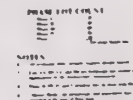
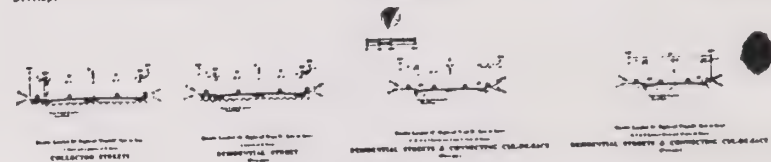
1. All dimensions are in feet.  
2. All dimensions are in feet.







MacKay & Somps  
Civil Engineers



1990年1月  
 1990年1月  
 1990年1月  
 1990年1月

Fuel Modification Zone

35 ft. wide Fuel Modification Zone with Canopy Modification to 10' above ground level





**APPENDIX D**

**VILLAGE TRAIL  
ACCESS PLANS**

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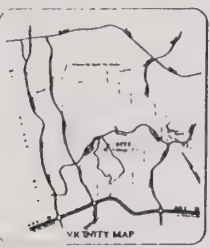




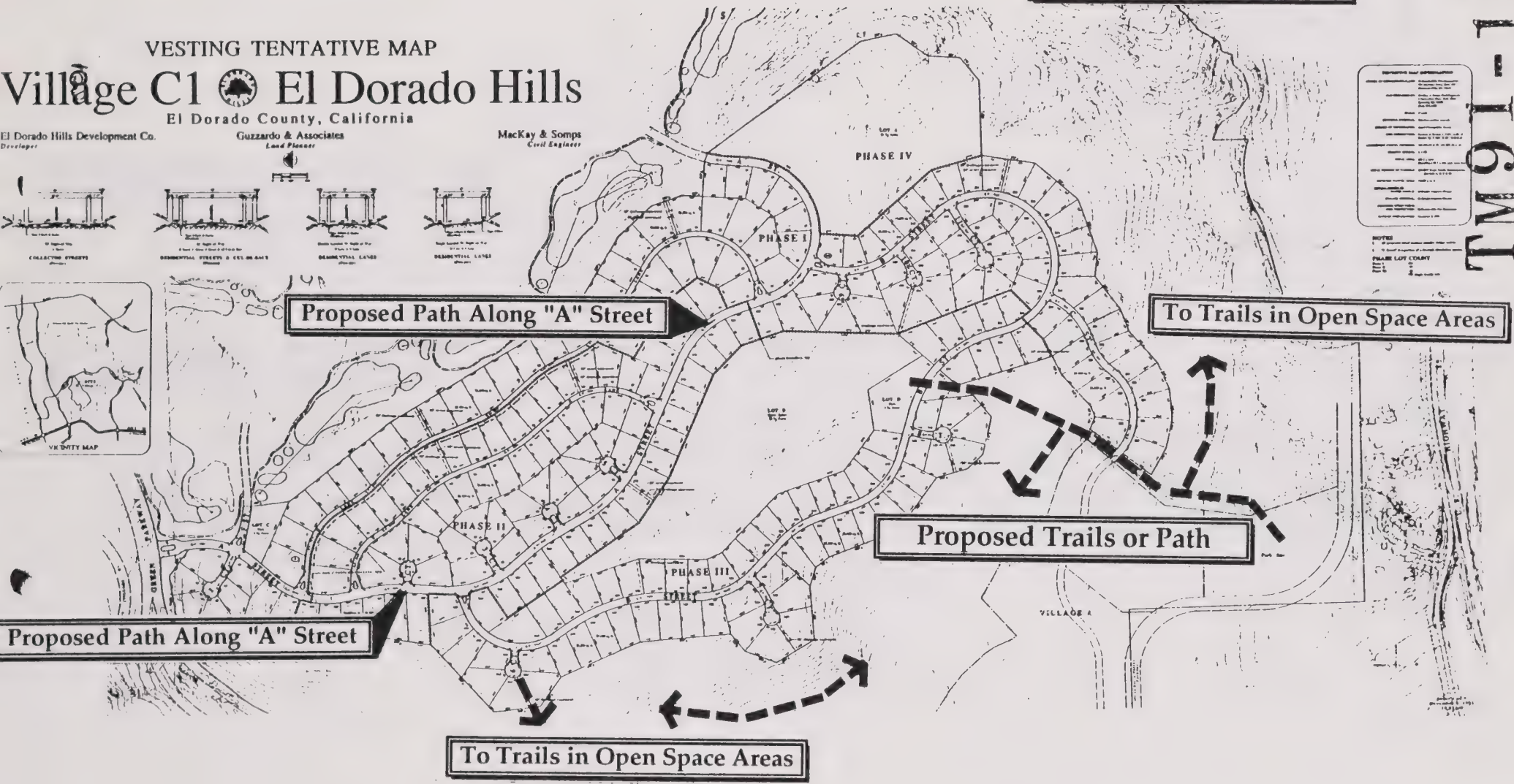


Exhibit D  
Proposed Pedestrian  
Paths and Trails

VESTING TENTATIVE MAP  
**Village C1**  **El Dorado Hills**  
El Dorado County, California  
El Dorado Hills Development Co. Developer  
Guzzardo & Associates Land Planner  
MacKay & Somp Civil Engineer



PROPOSED PATHS AND TRAILS	
Path	Proposed Path Along "A" Street
Trail	Proposed Trails or Path
Open Space Area	To Trails in Open Space Areas







# Exhibit D Proposed Pedestrian Paths and Trails

## Village D El Dorado Hills

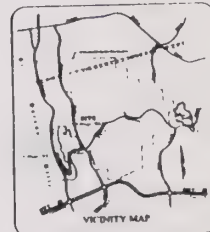
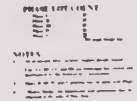
El Dorado Hills Development Co. **Guzzardo & Associates** **MacKay & Somps**  
Developer *Lead Planner* *Civil Engineer*

Proposed Path Along "B" Street

Proposed Path Along "B" Street

To Trails in Open Space Areas

To Trails in Open Space Areas



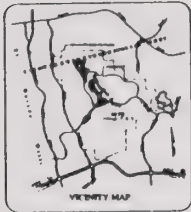
VILLAGE D	
Phase I	Phase II
Phase III	Phase IV
Phase V	Phase VI
Phase VII	Phase VIII
Phase IX	Phase X
Phase XI	Phase XII
Phase XIII	Phase XIV
Phase XV	Phase XVI
Phase XVII	Phase XVIII
Phase XIX	Phase XX
Phase XXI	Phase XXII
Phase XXIII	Phase XXIV
Phase XXV	Phase XXVI
Phase XXVII	Phase XXVIII
Phase XXIX	Phase XXX











# VESTING TENTATIVE MAP **Villages I & L** **El Dorado Hills**

El Dorado County, California

El Dorado Hills Development Co.  
 Developer

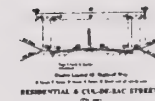
Guzzardo & Associates  
 Lead Planner

MacKay & Somp  
 Civil Engineer



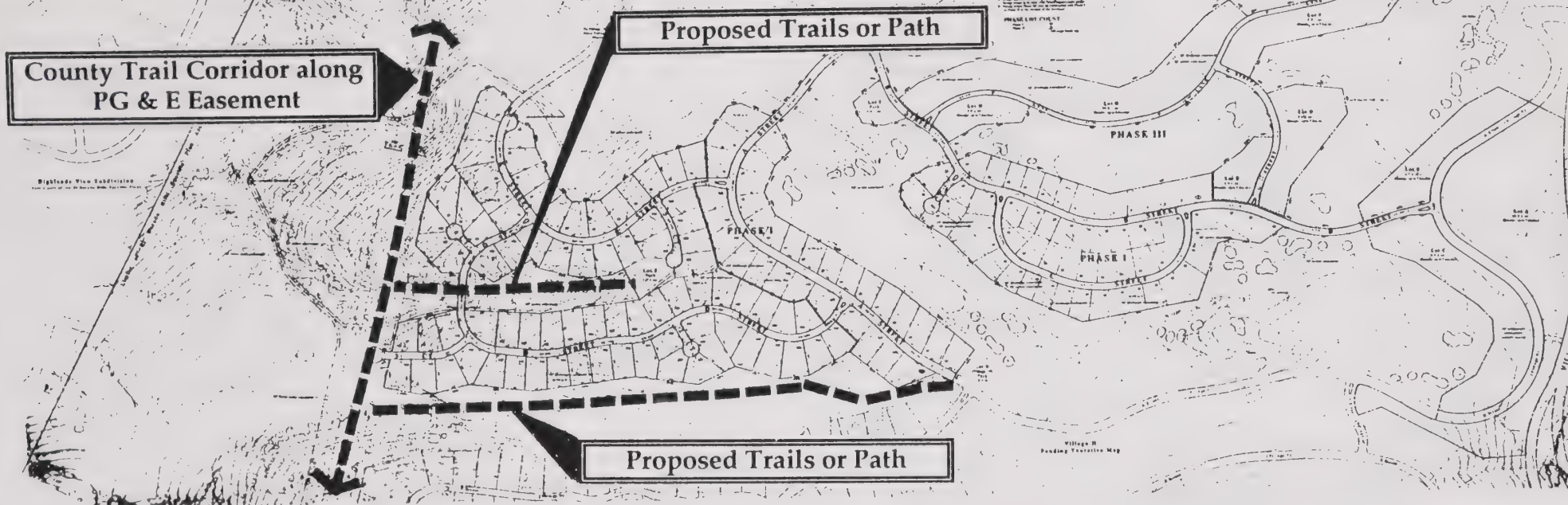
**EXISTING AND PROPOSED**

EXISTING	PROPOSED
1. Right-of-Way	1. Right-of-Way
2. Easement	2. Easement
3. Utility	3. Utility
4. Roadway	4. Roadway
5. Other	5. Other



**NOTES**

1. All proposed streets shall be constructed to the standards shown on the attached sheets.
2. All proposed streets shall be constructed to the standards shown on the attached sheets.
3. All proposed streets shall be constructed to the standards shown on the attached sheets.
4. All proposed streets shall be constructed to the standards shown on the attached sheets.
5. All proposed streets shall be constructed to the standards shown on the attached sheets.



**County Trail Corridor along  
 PG & E Easement**

**Proposed Trails or Path**

**Exhibit C  
 Proposed Pedestrian  
 Trails and Paths**





# VESTING TENTATIVE MAP

## Villages J & K El Dorado Hills

El Dorado County, California

Guzzardo & Associates  
Land Planner

MacKay & Soms  
Civil Engineer

El Dorado Hills Development Co.  
Developer



NOTES

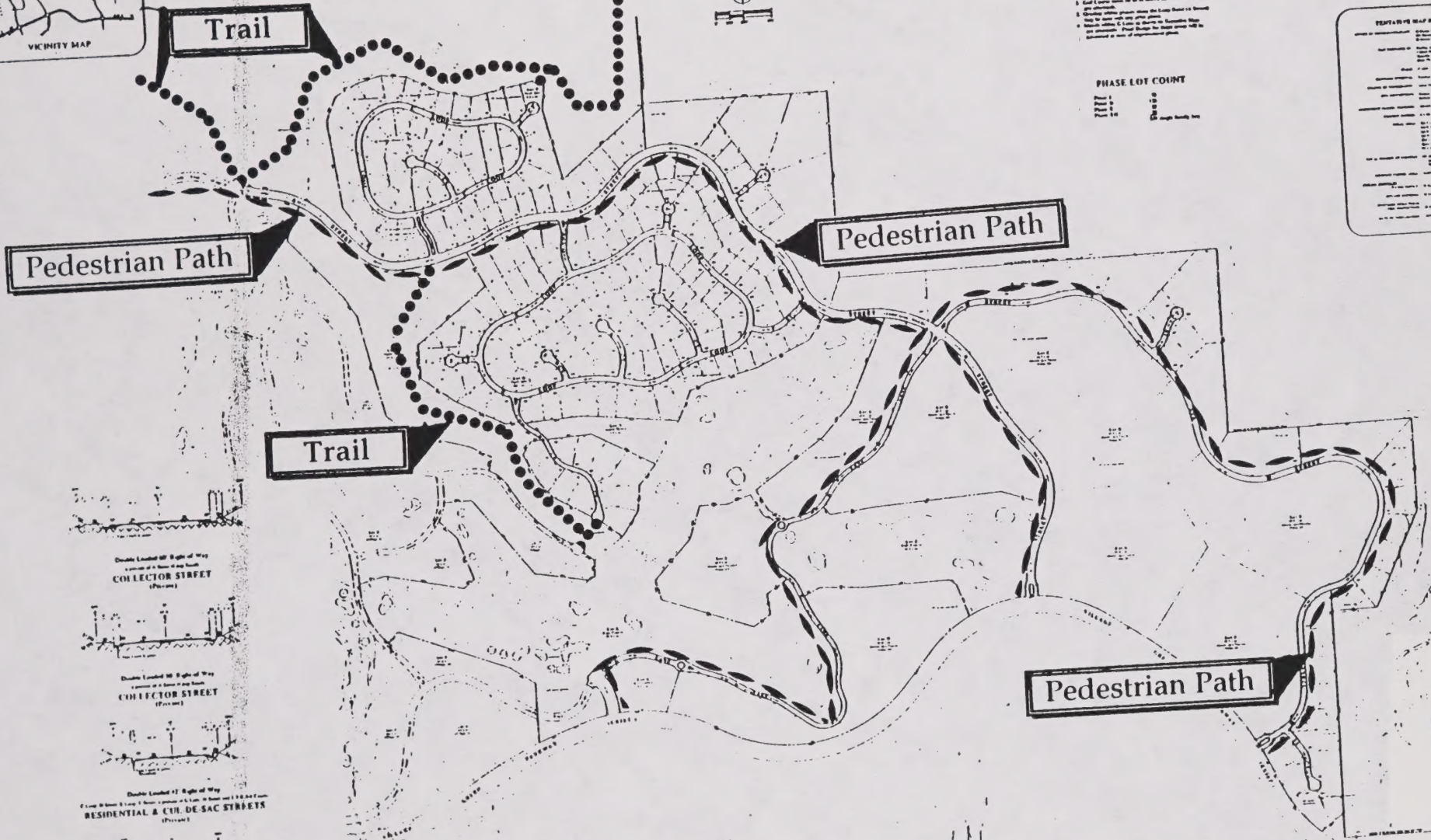
1. All proposed street projects require further review.
2. All lot lines shown are 60' or more in width.
3. All lot lines shown are 60' or more in width.
4. All lot lines shown are 60' or more in width.
5. All lot lines shown are 60' or more in width.
6. All lot lines shown are 60' or more in width.
7. All lot lines shown are 60' or more in width.
8. All lot lines shown are 60' or more in width.
9. All lot lines shown are 60' or more in width.
10. All lot lines shown are 60' or more in width.

### PHASE LOT COUNT

Phase	Lot Count
Phase 1	10
Phase 2	10
Phase 3	10
Phase 4	10
Phase 5	10
Phase 6	10
Phase 7	10
Phase 8	10
Phase 9	10
Phase 10	10

TENTATIVE MAP IMPROVEMENTS

Improvement	Location	Length (ft)	Width (ft)	Notes
Trail	Phase 1	100	10	
Pedestrian Path	Phase 2	100	10	
Trail	Phase 3	100	10	
Pedestrian Path	Phase 4	100	10	
Trail	Phase 5	100	10	
Pedestrian Path	Phase 6	100	10	
Trail	Phase 7	100	10	
Pedestrian Path	Phase 8	100	10	
Trail	Phase 9	100	10	
Pedestrian Path	Phase 10	100	10	



Pedestrian and Trail Routes



C124910072









